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THIS BUSINESS OF EATING[1]

MARY I. BARBER

Kellogg Company, Battle Creek, Michigan

LOOKING back through the ages it seems that people have always eaten with more or less discrimination, according to the degree of agricultural cultivation and the availability of cooking equipment. At different periods of history the art of cookery attained great importance in social life. Meals of such proportions and such elegance were served that dining was a matter of hours and was followed by a condition of gorged drowsiness which nothing but sleep could cure. This seems unreal in our active, competitive life today and perhaps may be viewed with some envy by dietitians—provided they could be on the couch and not in the kitchen.

Dietitians are well aware of the developments in eating habits and the many transitory phases in the development of these habits. We have often had our memories refreshed by speakers who have traced for us the changes in food customs; the history of carbohydrate, protein, and fat metabolism; the need for minerals; the dramatic discovery of vitamins and the ever-increasing vitamin research.

All this came as a surprise to the business world a comparatively few years ago. Manufacturers of foods and equipment suddenly discovered that the public was keenly interested in knowing what it was eating and what individual foods would do for human beings. This was before the era of the "get your man" claims and the interest was possibly on a more academic plane than a little later. People were realizing that there was a relation of food to health, that many discomforts, especially those which came with advancing years, might be avoided, that children's bowed legs did not develop because they were overweight when learning to walk, but rather because not enough calcium had been supplied in their food. Advertising agencies were quick to see that business needed women who knew what this rapidly increasing field was all about and who could interpret scientific reports into the simple language necessary for advertising and sales promotion programs. It was natural that they should turn to the field of dietetics for such women. So, shortly after this association was formed

[1]Read before the General Session, American Dietetic Association, Los Angeles, August 29, 1939.

one or two women who knew a great deal about cooking and were informed on developments in the fields of home economics and dietetics were added to the advertising or sales departments of manufacturers. One of these pioneers went to a food company, one to an association of manufacturers of a unit of kitchen equipment, another to a group of meat packers. Next the dairy industry saw the value of a link between them and the consumer. Magazines and newspapers, more food companies and producers of household equipment followed. Most departments began with a staff of one which was usually enlarged as the work was learned and its scope expanded.

Today the food economist, dietitian, educational director, home service director, columnist, syndicate writer, broadcaster, or whatever she may be called, is a definite part of this business of eating. Her function is naturally to tell the consumer about her firm's products but also to tell her employer about the consumer and to keep him informed as to the trends in buying habits, sectional differences in meals, standards of cookery, what is being published about everything pertaining to eating. She keeps informed as to food and nutrition research so as to be intelligent and fair to the one who sells the food, to the people who buy it and to those who eat it. Her aim is to give a clear picture, not one seen through dark glasses.

Two nurses were on the train with me en route from Dallas to Los Angeles. They went to dinner first and, upon their return, I asked if they had enjoyed the meal. One answered, "Ye-es" rather doubtfully, so I asked what was the matter. She replied, "Well, I can't eat rare roast beef and mine was too red. I thought of sending it back, but decided to put on my dark glasses and eat it."

All hospitals do not have dietitians who are graduates of an approved course and who have served their alloted time in approved hospitals. All food manufacturers do not have women with training matching the standards set up by the American Dietetic Association, but the trend is toward this goal. At present over 600 home economics trained women are in business—not all in "this business of eating" but a large percentage of them connected with food in some way. How does their work tie in with the work of the dietitian? What are some of our common interests?

Perhaps the strongest bond is that of recipes. Like the mother in a family of four, the dietitian is striving to please and safeguard the health of her family of 40, 400, or 4000. Like the housewife with one or two servants, the dietitian must train her staff of 200 or 2000. How fortunate they are not all cooks, who are supposed to be temperamental! There may be two or three shifts of bakers, however, and the chefs need menu suggestions so that the meals will be interesting and cosmopolitan in flavor. Unlike the real family, the members of the hospital family come from homes which differ widely in income, culture, and food habits. A dietitian strives to keep and please her employees, and to satisfy her patients; and to do this she keeps them happy about their meals and encourages better habits where this is advisable.

Have you heard about the book of quantity recipes which is being published by the association? This is a compilation of recipes from all parts of the

country. Putting these into form has not been easy. If you have never made a recipe study you would be amazed at the number of ways in which they can differ. If you think a cookie is *just* a cookie you are sadly in error because a cookie can be anything from a spoonful of batter to a square of dough. It varies from a tiny mouthful to the size of a bread and butter plate. The person who makes the special recipe knows what it looks like, the size pan to use, the size of the dip, the temperature for baking, the keeping qualities, etc. The difficulty is to tell someone else just what to expect and how to get it without writing a book on the one subject. The dietitian in business prepares recipes to be sent to many outlets, so extreme care must be taken to give all necessary information. A group of women in food and equipment companies are working together toward this standardization. The article in this JOURNAL for April, 1939, "Recipe Writing and Arithmetic," gave in detail the outline used at present. We hope you will be very critical of our forms and we will welcome suggestions from you.

Another way in which the business dietitian works with the one in the hospital is to furnish laboratory analyses of the products. You can always obtain the percentage of iron, phosphorus and copper, and the units of the vitamins present, the history of the product, and suggestions for its use. Each person in the business field has expert information about her own products and since a dietitian is employed in every major phase of the food business, you should be able to save much time and energy by going directly to the source for assistance.

This business of eating has become an integral part of service—service to the manufacturer, to the dietitian, to the food editor, and to the homemaker. We feel a close relationship with all who are handling food and gain much satisfaction in working with you who represent the best in scientific training and who are in a position to interpret practically all that is sound in food information to the groups of people whose future health may be based on what they learn from you.

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The "Oslo Breakfast" in England.—The "Oslo breakfast" has been introduced into England and found highly satisfactory, but it is given as a dinner instead of breakfast and is called "the health dinner." In his report to the London County Council, just published, the school medical officer, Sir Frederick Menzies, states that the children taking the Oslo meal showed a greater increase in height and weight than children receiving the traditional English hot midday dinner. There was also a striking improvement in complexions and complete disappearance of minor cutaneous troubles. Menzies finds no evidence of general food shortage among London children but some want of ingredients essential to health which are not easily obtained in the winter months.—*Foreign Letters, J.A.M.A., 113: 2333, 1939.*

BROADER HORIZONS[1]

A. C. JENSEN

Fairmont Hospital, San Leandro, California

AT YOUR annual meeting in 1938, you announced with justifiable pride that the American Dietetic Association, although one of the youngest of the associations allied to the medical profession, had come of age—that just 21 years had passed since its organization. You have every reason to be proud and happy when you review the growth of your profession and the accomplishment of your organization. Especially so when we recall that all of it has taken place within the memory of some of those present. I know that you delight, as I do, in paying tribute to the pioneers responsible for this accomplishment—many of whom are with us today.

The field of the dietitian has consistently extended during this time, and in keeping step with the increasing demands, you are concerning yourselves with varied problems: that of training specialists in the educational field; as nutritional experts; as administrators; and as those particularly qualified to meet the increasing opportunities of an enlarging commercial field. Without minimizing the importance of your activities along these and other lines, I believe it is recognized that your most notable progress has been in the hospital. All of you may not be familiar with the work of Dr. John A. Hornsby (1), who in 1914, collaborating with Richard E. Schmidt, published his book *The Modern Hospital*. It was the outstanding work on hospital management for several years. Twenty years ago, when I entered the hospital field, it was the "bible" of the hospital superintendent, covering exhaustively all phases of hospital work. As a commentary on the thought of that time, it is interesting to note that no mention is made of a dietitian, or of her possible value to the hospital. Commenting on the duties of the housekeeper, Dr. Hornsby states that good housekeeping starts with a clean kitchen, clean and efficient help—with properly purchased, properly cooked and properly served foods. Referring to special diets, he suggests that they be prepared by a nurse at work in the diet kitchen, and "When a doctor prescribes a diet for his patient, she will merely fill the prescription and prepare the tray down to the last teaspoon, to say nothing of every item of food."

In comparison with the failure to recognize even the existence or the need of a dietitian, the importance and the duties of the butcher are discussed in great detail. Summarizing them, he says, "Let us consider the butcher shop and the presiding genius of that establishment, because meats are perhaps the most important article of food, at least from the standpoint of institution management. When the butcher comes to his task in the morning, he has in his mental vision—the nervous and hard to please private patients, never hungry at best, because of illness harder than ever to satisfy and naturally they must have

[1] Read before the General Session, American Dietetic Association, Los Angeles, August 31, 1939.

the choicest morsels, tenderloins, for instance—then there are the convalescents and other sick prople who need the most nourishing foods such as the sirloins, and the ward patients who need strong, nourishing meat—the guests' dining room to which must go the choice viands because the people who eat there are usually the friends and relatives of sick patients. They are anxious and troubled and their appetites must be tempted, so they must have the fancy pieces daintily served." And last, but not least, he must be concerned with "the hard working and robust people of both sexes, the internes and nurses, who should have good appetites for any plain, wholesome food."

Finally, we are warned that, "if we, as hospital caterers to the medical profession, undertake to invade the realms of physiology and chemistry in the conduct of our dietary, we will find ourselves in an unnecessary and impossible situation."

Truly, those were days of restricted horizons.

In contrast to this manual of 25 years ago, let us refer to Dr. MacEachern's *Hospital Organization and Management* (2) published in 1935, just 21 years later, and wholeheartedly accepted by progressive hospital people throughout the country. He first calls attention to the requirement of the American College of Surgeons: "Every approved hospital requires a well organized Dietary Department under the supervision and direction of a competent graduate dietitian." He then states, "Hospital food service is indeed a specialty. Although hospital diets are classed as 'general' and 'special', all should be regarded as being special inasmuch as various groups to whom they are served are either suffering changes in their physical condition or are working under abnormal conditions. . . . The position of the dietitian as head of the Dietary Department has changed from that of a subordinate, until now she is recognized as one of the senior administrative officers responsible directly to the director."

So, in the comparatively short span of 20 years, we have reached the place where I think we can state, unequivocally, that efficient and modern hospital organization dictates that a dietitian shall be in charge of every activity pertaining to the preparation and service of food.

Your horizon of opportunity is now, therefore, as broad as the hospital field and even reaching beyond it. It is gradually being extended to include diabetic, pediatric and nutrition clinics with increasing opportunity for instruction of the general public. However, as a hospital superintendent, I shall confine myself in the main to a discussion of the relation of the dietitian to the hospital proper.

In speaking of the dietitian's position in the hospital, we naturally think first of her as an executive in charge of the dietary department—therefore, the increasing use of the term of executive dietitian.

What, then, do we as hospital administrators require of an executive dietitian?

First, she must be an individual of such character and personality that she can command the respect and secure the cooperation of other administrative officers in the hospital, as well as of the employees in her department.

Obviously she must have the technical as well as the practical training necessary for her job. Fortunately for us, the pro-

gressive leadership in your Association has given us a dependable standard for measurement in this regard by your rigid requirements for membership.

She must be an able administrator, a personnel officer capable of selecting, training and directing a large group of employees.

She must be a business woman, as she is responsible for the expenditure of a large percentage of the hospital funds for food, supplies and service.

She must be an educator, competent to direct the teaching and training of student nurses and dietitians.

Last, but not least, she must be a competent therapeutic dietitian, able to collaborate with the medical staff in the practice of therapeutic dietetics.

The value to the hospital of an individual fulfilling these particular requirements would appear self-evident. Yet many hospitals, and some of the good ones, still do not have executive dietitians responsible for all food service, but have a chef, steward or housekeeper in charge of the operation of the general kitchen, food service, purchasing, etc., with the dietitian's authority and responsibility extending only to the special diets. How is this explained? In most cases, at least until comparatively recently, I believe it has been due to a lack of qualified dietitians to fill the requirements. I recognize, of course, that this is not the cause in all cases. Many administrators, let us say, hesitate to make changes in established organizations that have functioned with reasonable satisfaction over long periods of time.

If, however, you agree with me that the goal toward which administrators and dietitians should strive is an executive dietitian in charge of all food service in every hospital, the problem of your Association appears to have two aspects: first, that of providing an adequate number of properly qualified dietitians; second, that of developing a program of education which will demonstrate to hospital administrators the value of this policy.

To help meet the first need, you are wisely stressing the importance of practical training of the student dietitians in the hospital. As previously stated, she must first, of course, have a highly scientific background covering economics, biochemistry, nutrition, physiological reactions of food, food preparation for the sick and the well, a general knowledge of all feeding problems and of kitchen and personnel management, as well as the ability to teach these subjects. The universities are doing a rather good job of giving students all of this in a four-year course, but they are unable to give them the needed opportunity for practical application of this theory. Since the administrator of the modern hospital must require more of the dietitian, as in the case of the doctor, than can be obtained in any academic course of training available, it is our problem, as well as yours, to assist in providing this in order to meet the need for competent administrative dietitians.

The need of extending the opportunity for this training is indicated by the fact that in the West there are only six such courses given—three in California, one in Oregon, one in Utah and one in Washington—with a total capacity for the training of 45 students per year. For our course in Alameda County we have between 75 and 100 applications each year for eight student positions. Our experi-

ence has indicated that the demand for capable, well trained administrative dietitians who have completed the course far exceeds the number available.

To accomplish the second step toward this objective, it is necessary to develop on the part of hospital administrators and trustees an appreciation of dietitian leadership and control of hospital food service. I commend the continued and increased use of such programs as are presented by the Dietetic Section of the American Hospital Association and at some of the sectional and state hospital association conventions. These give you the opportunity of presenting and discussing mutual problems with hospital superintendents and getting the results of these discussions before the profession as a whole. More could be accomplished by this method if you would put more effort into the preparation of such programs that would challenge the interest of the superintendent, then follow up to the end that your superintendents attend and participate. Stress economic and administrative problems. Make them conscious of what you have to offer, not only in improving service, but in saving in the operation of this expensive department that expends at least one-fourth of each hospital dollar. The executive dietitian must assume the rôle of economist in the administration of a food department. The financial problem looms large in the administration of most hospitals. You must stress the important contribution which the dietitian can make toward solving it. She need not be an accountant any more than the superintendent needs to be, but like the successful superintendent, she must appreciate the value of figures relating to assets and expenditures, know how to get them and how to use them.

For example, in our hospital, a large public institution caring for chronic and convalescent patients, thirty-four per cent, or slightly more than one-third of our entire maintenance cost is spent under the direction of the executive dietitian. To exercise an intelligent control, she must submit to the superintendent a monthly financial statement showing segregated expenditures for various commodities and services. This must be checked against appropriations and compared with current trends of commodity costs.

As in most county institutions, our purchasing must be done through the county purchasing agent, but since the dietitian is responsible for both the quality and cost of food and service, she must assume the responsibility and have the authority to specify what is to be purchased, the quantity and quality. She must be qualified to determine whether commodities delivered comply with specifications. For instance, she has in her employ a butcher whose job it is to check the quality of the meats, but unless she is competent in turn to check him, there is opportunity for considerable loss where this item amounts to more than one hundred tons per year. She has under her direction, immediately in charge of the kitchen, a well trained and competent chef, but like others of his craft, he is primarily concerned with the preparation and service of food. He does not think administratively, or in terms of dollars and cents, unless the executive dietitian keeps him cost conscious through her daily conferences by suggesting and requiring standardized

servings, recipes, etc., and by continued emphasis upon efficiency and economy.

It is a point of justifiable emphasis that you develop every opportunity to educate the hospital administrator to regard you as an economic asset, and one who perhaps more than any other department head can make or break both the health and morale of the whole hospital.

There is one other opportunity too often overlooked by those of your profession. In seeking to enlarge the horizon of your service to the hospital and to the community, one of your greatest opportunities will be found in the small hospital. Almost three-fourths of all of the hospitals in this country fall into this group having less than one hundred beds. The dietetic needs of the individual patient and his doctor's need for qualified assistance is as great in the small hospital as in the large institution. It will usually be necessary to combine the duties of the dietitian and the housekeeper and perhaps in the still smaller hospitals even add other duties to the job. But who is better able to do this than the dietitian? Surely not the housekeeper with no technical training in the theory of foods and nutrition, nor the nurse with her limited training in this specialty. In order that you will be better prepared to serve this group, it would be desirable to include in the practical training courses a minimum of the fundamentals of the housekeeper's job. In addition to the opportunity for service, as dietitians you cannot afford to overlook the economic advantages which this large field offers. It has been given some attention in your literature and at your conventions, but is worthy of your continued and serious efforts for development.

At your 1938 session, your president, Miss Cooper, in a splendid address (3) reflecting the typically fine leadership of your organization, analyzed your progress and indicated some of your problems. She stated that there were but 2400 qualified dietitians in the service in the 6160 registered hospitals. This is evidence that there is still a large field for qualified hospital dietitians. However, in view of the fact that in 20 years your organization increased from 58 to almost 4000 members and in view of her statement that you hope you may in the not too distant future realize your goal of 10,000 members, she wisely raised the question of the possibilities for the development of the field for your profession in order that the increasing number of those who are preparing themselves for this work may be absorbed. In spite of the increase in hospital facilities, even if this is accelerated as the result of governmental interest, the growth will not keep pace with the increasing number of students unless you "sell" the dietitian to all types of hospitals.

As a sidelight on this problem, may I urge your continued emphasis upon careful selection of dietitians admitted to your ranks, having in mind that your success today is due to the character and qualifications of those who have built your organization.

Miss Cooper suggests that attention be given to the inherent quality of the students as a first consideration and emphasizes the need of their developing a philosophy of life that will enable them to fit into their organizations and their jobs. For the hospital dietitian, I would suggest the consideration of two other qualifications: the development of personality and the need of superior physical

health. We might also add, character, the attribute that will make sure her adherence to your accepted code of ethics. As your numbers increase, problems of this nature will multiply.

The horizon of the first graduate of the Boston Cooking School and that of the pioneer in home economics was the limited horizon of our grandparents. It was marked by intolerance of religious, social and political thought, mental narrowness, self-complacency and limited achievement. This horizon has widened for us—has become the symbol of varied achievement and opportunity limited only by the extent of our ability to grow along with our horizon. Some of your outstanding leaders of today have not had the opportunities of academic education and student training like that of your newest recruits, but they have grown continually, profiting by experience, maintaining a progressive spirit, developing personality through association with fellow workers, attending conventions, institutes, etc., and through extensive reading and study. On the other hand, some of the workers in your group, as in all similar organizations, have made little or no effort to improve themselves. For them the handwriting is on the wall.

A broadening horizon means the finding and grasping of opportunity. Our horizon grows as we grow.

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(2) MacEachern, Malcolm T.: Hospital Organization and Management, pp. 450, 468. Physicians Record Co., 1935.
(3) Cooper, Lenna F.: The dietitian and her profession, J. Am. Dietet. A. 14: 756, 757. Dec. 1938.

The Hospital Food Service

AS long as I remember hospital dietetics the question has been up as to whether or not the dietitian should purchase the food. Whether or not she should actually purchase the food may remain debatable, but since she is responsible for food bills, food satisfaction and food results, do you not think she should say what quality is purchased, what amount is purchased, and what price is paid? No matter who purchases the food, it should be inspected thoroughly by an impartial person before it is accepted. Items ordered by pounds should be weighed. Count the cauliflower a few times and you will not get crates with the heads rearranged and two missing. A whole row of lettuce out with ice filled in will not occur often if there is an honest inspection every time before goods are accepted. Look at the peaches and the berries in the bottom of the basket. Buy on specification and accept only on specification. The dietitian should be assured that the goods are bought carefully and received only in accordance with market orders. . . . The difference between food control and food laxity can easily mean two thousand dollars a month in a three hundred bed hospital. Would you pay an alert dietitian $2000 a month? Why not?—*Geraghty, E. M.: Organization and Management of the Hospital Food Service—Part I, Hospitals, December, 1939.*

AN INTRODUCTION TO TROPICAL FOODS[1]

WARREN T. VAUGHAN, M.D.

Richmond, Virginia

MY FIRST introduction to tropical foods was, quite appropriately, at the meeting of the American Dietetic Association in Richmond. There, at a gala luncheon, the Florida members of the Association presented us with an astonishingly large variety of exotic foods, all now being grown in Florida.

My interest was aroused especially, because of the possibility of their use by those allergic persons so unfortunate as to have become sensitized to a very large number of foods. This applies particularly to the fruits. I had already made a trip to New York to make arrangements with Macy's grocery department so that substitute foods might be available for those who must avoid such widely eaten foods as wheat, egg, milk, coffee, tea, etc. Here appeared to be another opportunity for broadening the diet of allergic patients.

Friends in the Association made it possible for me to photograph the tropical and subtropical foods, provided me with several specimens, sent me literature from Florida concerning these, and told me of Colonel H. W. Johnston, Homestead, Florida, from whom the more important varieties might be procured.[2]

Later, during a trip to New Orleans I visited the old French Market, procuring several additional specimens. The taste of many of these seemed rather flat, not so delectable, to us at least, as those foods to which our palates were accustomed.

I well recall when as a lad I had the pleasure of meeting Dr. Paul Ehrlich, the famous German chemist, discoverer of salvarsan, who was visiting in my father's home. It was in the early days of the popularity of prepared cereals, and shredded wheat made its appearance at the breakfast table. The doctor at once became full of interest. "Was ist das?" he asked. Having been told, he exclaimed, "So! Then must I dissect it!" He did so, reserved judgment on the first two or three mouthfuls, then finished the dish with gusto. "Das ist gut," was his final judgment.

Although I had been rather disappointed with the taste of tropical fruits and vegetables eaten in the United States, I, like Ehrlich, still had the feeling that I must dissect or at least investigate them. I had a suspicion that in the same way that corn bread cooked in the North is never as good as that made by a southern mammy, the preparation of the food might make a tremendous difference. In March 1939, therefore, Mrs. Vaughan and I made our journey of exploration to the island of Jamaica, to receive there our second introduction to tropical foods. My suspicions were confirmed.

Since it was our desire to become acquainted with the native dishes, rather

[1] Received for publication July 28, 1939.

[2] Most helpful were Bulletin 46 of the State of Florida Department of Agriculture, and Bulletin 85 of the Agricultural Extension Service, Gainsville, Florida. *See* Vaughan, Warren T.: Practice of Allergy, C. V. Mosby Company, St. Louis, 1939, pages 395 to 399. Also the author's Primer of Allergy, C. V. Mosby Company, St. Louis, 1939, page 131.

than those which are available in hostelries and caravansaries catering the world over to English speaking peoples, we avoided the splendid large hotels of Kingston. Instead, we rode 120 miles across the mountains to the north side of the island, to the quaint little town of Montego Bay, famed as a British winter resort and boasting one of the finest bathing beaches in the world. The ride was an epic. It was accomplished in a motor trolley. While this was propelled by a Ford engine there was no trolley as we understand the term. We soon discovered that a trolley in Jamaica is a hand car. But this was a very superior hand car. Equipped with five upholstered chairs besides the seat for the driver, it had a mahogany table across the center, on which was a large map of Jamaica, covered with plate glass, so that we could follow our itinerary without difficulty. The sides were open and the front arrangement was similar to the windshield of an automobile. No roller coaster of our childhood days provided as many thrills as did the motor trolley, as it barely missed goats and pickaninnies, dashed up and down the mountain slopes, in and out of tunnels, and at last emerged suddenly from the final tunnel to display far below us, the glories and the magnificent coloring of Montego Bay.

We did not stop at the fashionable hotel down on the beach. The Ethelhart, which became our temporary abode, rested on a hill high above the edge of town. From its many verandas we looked almost straight down into the little village and imagined ourselves guests in a feudal castle gazing upon the homes of his lordship's vassals, nestled against the base of the mountain.

Breakfast was served just outside our room, in our private section of the veranda, where the view comprised a wide expanse of the Caribbean, and we could watch the banana boats and the rare cruise ships which put in at the little town not oftener than once a week. Luncheon and dinner were served in the dining room, which, on stilts, extended out beyond the top of the hill. Three sides were entirely French windows. The view of the sunset was magnificent.

This was no mean inn, although native to the soil and rigorously avoiding any suggestion of continental or American influence. In true British fashion, however, one invariably dressed for dinner.

Here we discovered what we had been seeking in the way of tropical dishes. Miss Ethel N. Hart, the proprietor, an Englishwoman, has the reputation of serving the finest table in Jamaica. We learned that she declined the invitation to be special caterer for the governor general of the island, preferring the associations and the friendships of the hotel, which was her home. We found that one could have one's choice between the standard dishes and the tropical ones, but the latter were so delicious that all guests soon included them, either as their entrées or more often as a side dish and as dessert.

Breakfast had the old familiar fruits, orange, grapefruit, banana, and pineapple. Somehow they tasted better. They probably were better, since they were picked ripe. The pineapples and oranges were sweeter. Oranges were served in an unusual manner. A fork was stuck into one end and the orange was peeled and served with the fork left in place. One ate it like a lollypop. The bananas were sweeter and smoother

Botanical Information Concerning Certain Tropical Foods

FOOD (BOTANICAL NAME)	LOCAL SYNONYMS	BOTANICAL FAMILY	NATIVE OF
Achras sapota	Sapodilla-plum Zapote Bully-tree Naseberry Chikku Chico Rata-mi Shimai-eluppai	Sapotaceae (gutta family)	Tropical America and The West Indies
Ananus sativus	Pineapple Annasi	Bromeliaceae (pineapple family)	Tropical America
Artocarpus incisa	Breadfruit Rata-del Erapillakai	Urticaceae (fig family)	Pacific Islands
Blighia Sapida (Cupania edulis)	Akee	Sapindaceae (soapberry family)	Western Tropical Africa
Carica Papaya	Papaw Papaya Papeta Tree-melon Pepol Pappali	Caricaceae (passion-fruit) family	Central America and The West Indies
Chrysophyllum cainito	Star-apple Caimito Rata-lawulu Seemaipala-pallam	Sapotaceae (gutta family)	Central America and The West Indies
Colocasia antiquorum of esculenta	*West Indies* Coco-yam Eddo Dasheen *Tropical America and Pacific Islands* Taro Gabi Colalu *Cuba* Melanga *Malaya* Talla *India* Kochchi Kachu Arvi *Egypt* Qulqas *Ceylon* Kiri-ala Daesi-ala Kand-ala Sevel-ala	Aroideae (calla-lily and jack-in-pulpit are also of this family)	Tropical Asia

Botanical Information Concerning Certain Tropical Foods—Concluded

FOOD (BOTANICAL NAME)	LOCAL SYNONYMS	BOTANICAL FAMILY	NATIVE OF
Dioscorea	Yam Velala Kati-kelengu	Dioscoraceae (yam family)	Uncertain
Lucuma mammosa	Mammey sapote Grosse sepote Marmalade fruit	Sapotaceae (gutta family)	Central America
Mangifera indica	Mango Amba Manga	Anacardiaceae (sumac family)	Tropical Asia
Manihot utilissima	Tapioca Cassava Mandiocca Manyokka Manioc	Euphorbiaceae (spurge family). This family also includes croton and castor bean	Tropical America
Musa sapientum	Banana Plantain Kehel Vala	Scitamineae (ginger family)	Uncertain
Persea gratissima	Avocado Alligator pear Aguacate Soldier's butter Et-pera Anakoya-pallam	Lauraceae (laurel family)	Tropical America
Peidium guyava	Guava Pera Koiya-pallam	Myrtaceae (myrtle family)	Tropical America
Sechium edule	Chocho Cayote Chayote Christophine Vegetable pear	Cucurbitaceae (cucumber family)	Tropical America

to the taste. I tried to find some of the famous ladyfinger bananas said to be the best of all, but was unsuccessful. We learned that bananas taste better in the United States than in England because the English importations must be picked much greener.

The banana is to inhabitants of the tropics what the Irish potato is to those living farther north. It is the most prolific of all crop foods. An area which will produce 33 pounds of wheat or 98 pounds of potato will produce 4000 pounds of banana. Its starch is as di-

gestible as that of the cereal grains and may be made into flour. Mixed with wheat flour it is often used in biscuits or porridge. An acre of good ground will produce between 300 and 400 bunches each year. The poorer natives measure their wealth in terms of the number of the banana trees which they can grow.

The *papaya* or *pawpaw* corresponds fairly well to our cantaloupe. It is by no means as delicious as a good cantaloupe but better than the rather tasteless ones that too often it is our misfortune to draw. It is rather more stringy. The pawpaw, like the cocoanut, grows near the top of a low tree, which is crowned with large palmate leaves. *Papaine*, a digestive enzyme, is obtained from the juice.

In this country, the person allergic to wheat but not to corn may have corn meal griddle cakes as a bread substitute for breakfast. In Jamaica we discovered similar cakes made with cassava flour. This, sweetened a bit with orange marmalade or guava jelly and reinforced with our old friends, eggs and bacon or sausage, and washed down with a cup of the famous Jamaica "Blue Mountain Coffee," completed a breakfast which made one ready and anxious for any event that might occur during the day. I have tried to find this coffee in the United States but so far have been unsuccessful. It is the kind of thick coffee, with coffee oil swimming at the top of the cup, which it would be sacrilege to adulterate with cream and sugar.

One of the most delicious entrées for the noon or evening meal was *akee* with cheese. The fruit of the akee tree is quite unusual. Unripe, it looks like a medium-sized reddish nectarine. When ripe, it pops open along cleavage lines into three segments which, like a jack-in-the-box reveal three small olive-colored, stony-hard seeds, each seed capped with a small yellowish aril. Only this firm creamy aril lying over the tips of the seeds is edible. Cooked with cheese, it makes a delicious concoction reminding one somewhat of a cheese omelet.

Akee is native of western tropical Africa and was introduced into the West Indies. It must be picked when ripe since it is poisonous both before complete ripening and after the arils have been exposed for any length of time. Between the lobes of the latter is a pinkish skin which must be removed.

Among the side dishes, *chocho* was a favorite. This, in appearance and taste, is between a cucumber and squash and is a member of the same botanical family. There is a single large seed. The leaves resemble those of the cucumber and it grows as a vine.

I had always thought of the plantain as a large banana but so much inferior to the banana that it must be cooked before eating. We soon discovered that fried plantain is a delicacy. While the taste is that of fried banana there is a suggestion of roast chestnut which adds interest.

The yams are good. They are rather dry, not soggy, like so many of those in the United States. They are rather fibrous. Some varieties, unlike the sweet potato, have both aerial and underground tubers.

There was another tuberous plant which I was very anxious to study. This was the *taro*, so widely used in Hawaii instead of potatoes, and said to be more delicious, with its artichoke flavor. I knew that this was widely cultivated in the West Indies where it was called *dasheen*. In spite of many inquiries I

found no one who had heard of taro or dasheen.

Stanley, our waiter, showed me another plant with a tuberous root which he said was widely used as a food. It was called *coco* and he told me that it was like a yam. Since it was not ripe at the time I contented myself with taking photographs of the large elephant-ear leaves. When we reached Miami I procured a reference volume on tropical foods. Imagine my surprise and delight at finding that taro or dasheen is also called coco-yam. The illustration in the book was that of the plant which I had seen. I had my picture of taro, even though I had not known what I was photographing. There are many varieties of coco-yam. As a rule they are cultivated for their small tubers, but in some varieties the tender leaves and stems are eaten.

The breadfruit was not ripe. These large beautiful trees with very large shiny deep-cut leaves are widely scattered over the island. Their importation from their native habitat in the South Sea Islands is connected with the story *Mutiny on the Bounty*. Captain Bligh was bringing one thousand breadfruit plants from Tahiti to Jamaica where they were to be planted and used as the chief food supply for the negro slaves. In his subsequent voyage, Captain Bligh introduced the breadfruit to Jamaica. The green fruit as we saw it is about eight inches long by four or five inches in diameter, ovoid, and covered with small green "hob nails." When bruised, it exudes a milky fluid. When ripe this becomes a solid white fleshy mass. It may be sliced and roasted and ground into flour. It is said to taste like a batter pudding.

Desserts at the Ethelhart were of many kinds, but those characteristically native usually were either fresh fruits or custards or puddings with cassava flour as a base, cocoanut cream being used as we would use cow's cream.

The cassava root is rarely eaten as such, being used chiefly as a source of cassava flour and tapioca. There are two types of cassava; the "bitter," containing some prussic acid and used chiefly as a vegetable; and the sweet, used chiefly as a source of starch.

Star-apple was one of the most popular of the fruits. This is about the size of a large apple. It is cut into halves and the sweet jelly-like pulp on the inside is eaten with a spoon. On the outside it is round, about three inches in diameter. When cut across, star septa appear. In each section is a brown seed about one-half inch long. There were two varieties, one purple, the other green. The star-apple tree is a medium-sized evergreen with oval leaves about three inches long, unusual in that their upper surfaces are dark green, while the lower are copper-colored.

By all odds the most delicious of the fruits was the *naseberry*. It would be difficult to find any fruit in our own country superior to it. The round, brown, thin-skinned fruit, about two inches in diameter, grows on trees twenty or thirty feet high. Like the star-apple it is cut into halves and the pulp is eaten with a spoon. The taste reminds one of an unusually good pear while the consistency is more that of apple sauce. We agreed that the naseberry was the best of all.

I was greatly disappointed to find no *sapodillas*. David Fairchild in his delightful memories, *The World Was My Garden*, speaks of the sapodilla as one of

the finest tropical fruits, widely distributed in the West Indies. Here again I was due for a surprise upon my return to Miami, where I discovered in the reference volume that naseberry is a local name for sapodilla.

Chicle, used in chewing gum, is obtained from the juice or latex of the sapodilla tree.

We should not overlook the curried eggs with mango chutney. The mangoes grow on a large tree and resemble a small melon in appearance. They are irregularly ovoid, yellow, red or green when ripe. Between the rather tough thin skin and the single large seed is a reddish orange pulp which looks and tastes very much like muskmelon. Sweet sop, sour sop and *granadilla* were other fruits not yet ripe during our visit.

In Havana we discovered the *mammey*. This resembles a small melon in appearance and taste. It has a russet-brown skin, a salmon-colored fleshy layer which is surprisingly good to the taste, and, in the center, one or more large elongated seeds.

While the above does not comprise all of the tropical foods available on the island, it includes those fresh or green with which we became acquainted, and certainly includes the more important varieties. While seeing Kingston on our return we asked our negro chauffeur-guide which were the most popular native fruits. He named banana, orange, grapefruit and mango. We may see then, that with one exception, the best are already widely available in the United States. All of the others are now being grown in Florida.

We asked our guide how he made a living during the lean months of the year when there is no tourist traffic. With the carefree attitude of one living in the tropics, he replied, "When the tourist season is on I make enough to keep my automobile going and to keep me in necessities through the rest of the year. I have a breadfruit tree in my yard and if the money doesn't last, I can live on breadfruit. I grow my own tobacco and only need purchase cigarettes when I have the money. Unlike you who live in colder climates, I need but one suit a year, for all seasons. I work during the few months of the tourist trade and I can enjoy myself for the rest of the year."

I have spoken of my first and second introduction to tropical foods. They should more accurately be termed the second and third, for the citrus fruits, pineapple, banana, cocoanut, etc., have long been regular items of the standard American diet. Even these old standbys have become increasingly common. When I was a lad oranges were eaten in season. Now they are available every day through the year. This has been due in part to importation and cultivation in suitable areas in the United States, but more particularly to the development of rapid transportation and improved methods of refrigeration. I anticipate that in the next decade or two further improvements along similar lines will result in general availability of most of the tropical foods which we have discussed. Speaking as an allergist I feel that this is highly desirable, inasmuch as there are a surprisingly large number of persons whose diets are sharply restricted and who would welcome the opportunity of using these substitute foods, foods which as a rule are not closely related to those customarily found in our standard menus.

CALCIUM AND PHOSPHORUS CONTENT OF THE BLOOD OF NORMAL AND MENTALLY DISEASED MEN[1]

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BLOOD analysis has long served as an aid in the diagnosis of disease for it is generally recognized that abnormal blood conditions accompany certain diseases. In fact the correlation between the abnormal mineral composition of the blood and some diseases has been frequently discussed in the literature.

Hess (1) observed a correlation between the occurrence of tetany and the calcium content of the blood. Pincus and Kramer (2) reported the amount of calcium and phosphorus in the blood serum of paresis, cerebrospinal lues and epileptic patients. Hamilton (3) assayed blood collected between epileptic seizures. Scott and Pigott (4) determined the calcium content of the blood serum during epileptic seizures. Weil and Liebert (5) found 34 per cent more phosphorus in the serum during seizures. Lennox and Allen (6) stated that the blood calcium of epileptics was within normal limits. Hepburn and Neibaum (7) observed high blood calcium for dementia praecox and general paresis patients. Powers (8) reported normal calcium but high phosphorus for the blood plasma of idiots. On the other hand, Brown (9) found high calcium and Negus (10) normal phosphorus for blood serum of idiots.

Tingey, Oxon and Hardwick (11) concluded that the calcium content of the blood serum was normal for patients with various types of mental disease. Michaels and Searle (12) determined the calcium content of the blood of patients with neuropsychiatric disorders. Kerley, Lorenze and Godfrey (13) reported normal blood calcium and phosphorus for most children with emotional imbalance. Sackett and Turner (14) investigated the effect of hyperpyrexia upon the amount of blood phosphorus of paretics. Atkin (15) studied the blood calcium of patients with different types of psychosis. For comparison with values for normal adults, attention is directed to the studies of Myers (16), Hunter and Aub (17), Tolstoi (18), Kramer and Tisdall (19), Bullock (20), Cantarow (21), Stewart and Percival (22), Merritt and Bauer (23), Griffin, Osterberg and Braasch (24) and Kirk, Lewis and Thompson (25).

Since discrepancies exist in the published values for the calcium and phosphorus content of the blood of mentally diseased persons, this study was conducted to accumulate additional data on this subject.

EXPERIMENTAL

The subjects of this investigation were male patients in a hospital for mental diseases and 20 male college students

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selected from the honor roll of the North Carolina State College of Agriculture and Engineering who served as controls.

The experimental subjects consisted of 17 mentally deficient, psychotic patients; 11, mentally deficient without psychosis; 57 with dementia praecox; and 12 with miscellaneous mental deficiencies. These men were healthy in all other respects.

A 20 cc. blood sample was collected from each of the controls after a 5-hour fast, and from the subjects just before breakfast or after about 12 hours of fasting. The blood was immediately placed on ice and allowed to clot. The serum was decanted and centrifuged for 10 minutes. The serum of 2 controls was analyzed with each block of 10 specimens from the subjects.

The calcium content of the blood serum was determined by Clark's (26) method. The strength of the 0.01 normal potassium permanganate solution was checked daily before use. Two analyses were made on each blood sample and the results averaged.

The phosphorus content of the blood serum was determined by the method of Bell and Doisy as modified by Benedict and Theis (27). The phosphorus stock solution was prepared every 2 weeks and preserved with chloroform, and the phosphorus standard was made up daily. The remaining solutions were prepared at least every 30 days. Four readings were made on 2 aliquots of each sample of blood and these 8 readings were averaged.

The colorimeter was checked before use and necessary adjustments were made. All colorimetric readings were made with the field illuminated by a Chalet micro lamp, using Corning daylight glass.

The calcium content of the blood serum from the 20 controls (table 1) varied from 9.50 mg.[2] for Subjects No. 2 and No. 20 to 12.00 mg. for Subject No. 5. The average calcium content of the serum was 10.65 mg. and in only three instances fell below 10.00 mg. The phosphorus content of the blood serum varied from 3.33 mg. for Subject No. 20 (35 years old) to 4.83 mg. for Subject No. 1 and averaged 3.93 mg. The product of weight of calcium (mg.) and

TABLE 1

The calcium and phosphorus content of blood serum of honor students—controls

NO.	AGE	CALCIUM PER 100 CC. SERUM	PHOSPHORUS PER 100 CC. SERUM	PRODUCT OF CALCIUM AND PHOSPHORUS IN BLOOD SERUM
	yrs.	*mg.*	*mg.*	*Ca × P*
1	17	10.70	4.83	51.68
2	17	9.50	4.30	40.85
3	17	10.70	4.50	48.15
4	18	10.40	3.35	34.84
5	18	12.00	3.91	46.92
6	19	9.80	4.06	39.79
7	19	10.00	4.11	41.11
8	19	11.20	3.81	42.67
9	19	11.00	3.93	43.23
10	20	11.20	4.63	51.86
11	20	11.40	4.01	45.71
12	20	10.40	4.17	43.35
13	21	11.40	3.45	39.33
14	22	10.25	3.83	39.26
15	22	11.05	3.50	38.68
16	24	10.75	3.73	40.20
17	25	10.40	3.66	38.06
18	25	10.90	3.70	40.33
19	28	10.45	3.71	38.76
20	35	9.50	3.33	31.64
Average.....		10.65	3.93	41.85

[2] Except when otherwise specified, figures followed by mg. represent mg. per 100 cc. of serum.

the weight of inorganic phosphorus (mg.) per 100 cc. of blood serum for the 20 controls varied from 31.64 for Subject No. 20 to 51.86 for Subject No. 10, with an average of 41.85.

In the 11 cases of mental deficiency without psychosis (table 2), the blood serum calcium varied from 8.80 mg. for Subject No. 25 to 11.07 mg. for Subject No. 27 and averaged 10.18 mg., and the inorganic phosphorus varied from 2.78 mg. for Subject No. 27 to 4.70 mg. for Subject No. 23 with an average of 3.70 mg. The product of the calcium and phosphorus content of the blood serum varied from 26.93 for Subject No. 25 to 49.82 for Subject No. 23 with an average of 37.66.

TABLE 2

The calcium and phosphorus content of blood serum of mentally deficient, non-psychotic patients

NO.	AGE	CALCIUM PER 100 CC. SERUM	PHOSPHORUS PER 100 CC. SERUM	PRODUCT OF CALCIUM AND PHOSPHORUS IN BLOOD SERUM
	yrs.	*mg.*	*mg.*	$Ca \times P$
21	17	10.50	4.17	43.79
22	18	11.00	3.72	40.92
23	19	10.60	4.70	49.82
24	20	10.50	3.97	41.69
25	20	8.80	3.06	26.93
26	23	10.15	4.24	43.04
27	23	11.07	2.78	30.77
28	24	10.40	3.55	36.92
29	26	9.65	3.33	32.13
30	29	9.30	3.82	35.53
31	30	10.00	3.39	33.90
Average.....		10.18	3.70	37.66

The calcium content of the blood serum of the 17 mentally deficient, psychotic patients (table 3) varied from 8.85 mg. for Subject No. 32 to 12.35 mg. for Subject No. 42, with an average of 10.02 mg.; and the inorganic phosphorus varied from 2.72 for Subject No. 37 to 4.50 mg. for Subject No. 41 with an average of 3.55 mg. The product of the calcium and phosphorus content of the blood serum varied from 24.57 for Subject No. 35 to 47.92 for Subject No. 41 with an average of 35.57.

TABLE 3

The calcium and phosphorus content of blood serum of mentally deficient, psychotic patients

NO.	AGE	CALCIUM PER 100 CC. SERUM	PHOSPHORUS PER 100 CC. SERUM	PRODUCT OF CALCIUM AND PHOSPHORUS IN BLOOD SERUM
	yrs.	*mg.*	*mg.*	$Ca \times P$
32	18	8.85	3.73	33.01
33	21	10.00	2.88	28.80
34	23	10.50	4.42	46.41
35	24	9.00	2.73	24.57
36	24	9.20	3.67	33.76
37	24	9.75	2.72	26.52
38	25	10.95	2.74	30.00
39	25	10.45	3.88	40.55
40	26	9.70	3.77	36.57
41	26	10.65	4.50	47.92
42	26	12.35	3.51	43.35
43	28	10.05	3.61	36.28
44	29	9.30	3.82	35.53
45	30	9.60	4.11	39.46
46	32	10.10	3.02	30.50
47	33	10.15	3.57	36.24
48	34	9.70	3.67	35.60
Average.....		10.02	3.55	35.57

The calcium content of the blood of the 57 dementia praecox patients (table 4) varied from 8.90 mg. for Subject No. 58 to 12.00 mg. for Subject No. 49, with an average of 10.22 mg., and the inorganic phosphorus varied from 2.58 mg. for Subject No. 76 to 5.95 mg. for

TABLE 4

The calcium and phosphorus content of blood serum of patients with dementia praecox

NO.	AGE	CALCIUM PER 100 CC. SERUM	PHOSPHORUS PER 100 CC. SERUM	PRODUCT OF CALCIUM AND PHOSPHORUS IN BLOOD SERUM
	yrs.	*mg.*	*mg.*	*Ca × P*
49	18	12.00	3.13	37.56
50	18	10.45	3.45	36.05
51	20	10.60	3.77	39.96
52	20	9.80	5.19	50.86
53	21	9.30	3.92	36.46
54	21	10.40	4.11	42.74
55	21	10.20	4.46	45.49
56	21	11.50	2.91	33.47
57	21	9.90	3.42	33.86
58	22	8.90	4.42	39.34
59	22	10.00	4.25	42.50
60	22	10.63	2.68	28.49
61	22	11.30	3.98	44.97
62	23	10.40	3.07	31.93
63	23	10.10	3.70	37.37
64	23	9.10	3.68	33.49
65	23	9.80	3.77	36.95
66	23	9.70	3.10	30.07
67	24	10.60	4.46	47.28
68	24	9.80	3.78	37.04
69	24	10.15	3.09	31.36
70	24	9.90	3.82	37.82
71	24	11.25	3.21	36.11
72	25	10.50	3.66	38.43
73	25	9.10	4.48	40.77
74	25	10.90	4.34	47.31
75	26	10.30	3.79	39.04
76	26	9.25	2.58	23.87
77	26	10.10	4.06	41.01
78	26	10.50	3.86	40.53
79	26	10.85	2.91	31.57
80	27	10.85	3.80	41.23
81	27	10.10	3.70	37.37
82	27	10.77	2.89	31.13
83	27	10.75	3.57	37.38
84	28	10.80	5.10	55.08
85	28	10.20	3.38	34.48
86	28	10.00	3.75	37.50
87	28	10.00	3.13	31.30
88	28	9.95	3.48	34.63
89	28	10.76	2.59	27.87
90	28	11.15	3.28	36.56
91	29	10.20	3.51	35.80
92	29	11.60	3.91	45.36
93	29	9.65	3.89	37.54
94	29	9.30	3.36	31.25
95	29	9.70	3.68	35.70
96	29	10.10	3.74	37.77
97	29	11.05	5.95	65.75
98	30	9.70	2.72	26.38
99	30	9.80	3.45	33.81
100	30	10.15	3.47	35.22
101	31	9.40	3.77	35.44
102	31	9.80	3.70	36.26
103	32	9.95	3.74	37.21
104	32	9.90	3.16	31.28
105	33	9.75	3.70	36.08
Average.....		10.22	3.67	37.51

Subject No. 97 with an average of 3.67 mg. The product of the calcium and the phosphorus content of the blood serum varied from 23.87 for Subject No. 76 to 65.75 for Subject No. 97 and averaged 37.51.

The calcium content of blood serum from 3 psychoneurotic patients (table 5) varied from 9.55 for Subject No. 107 to 12.44 mg. for Subject No. 108 and averaged 10.69 mg.; and the inorganic phosphorus varied from 2.46 for Subject No. 106 to 3.21 mg. for Subject No. 107 and averaged 2.85 mg. The product of the calcium and the phosphorus content of the serum varied from 24.82 for Subject No. 106 to 35.70 for Subject No. 108 and averaged 30.47.

The calcium content of the blood serum from 3 manic-depressive patients (table 5) varied from 9.40 for Subject No. 109 to 10.20 mg. for Subject No. 110 and averaged 9.85 mg. The inorganic phosphorus content varied from 3.48 for Subject No. 111 to 4.47 mg. for Subject No. 109 and averaged 3.87 mg. The product of the calcium and the phosphorus content of the blood varied from 34.63 for Subject No. 111 to 42.02 for Subject No. 109 and averaged 38.11.

The calcium content of the blood in 5 individual cases (table 5) of epilepsy,

idiocy, imbecility, traumatic psychosis and one undiagnosed case was within the normal limits, whereas the inorganic phosphorus content of the serum exceeded the normal limit in cases of epilepsy, idiocy, and the undiagnosed mental case. The product of the calcium and the phosphorus content of the serum varied from 26.82 for the case of imbecility to 59.73 for the undiagnosed mental condition.

TABLE 5

The calcium and phosphorus content of blood serum of miscellaneous groups of mentally deficient patients

NO.	AGE	CALCIUM PER 100 CC. SERUM	PHOSPHORUS PER 100 CC. SERUM	PRODUCT OF CALCIUM AND PHOSPHORUS IN BLOOD SERUM
		Psychoneurosis		
	yrs.	*mg.*	*mg.*	$Ca \times P$
106	22	10.09	2.46	24.82
107	27	9.55	3.21	30.66
108	28	12.44	2.87	35.70
Average.....		10.69	2.85	30.47
		Manic-depressive psychosis		
109	20	9.40	4.47	42.02
110	25	10.20	3.65	37.23
111	28	9.95	3.48	34.63
Average.....		9.85	3.87	38.11
		Epilepsy		
112	26	10.00	5.02	50.20
		Idiocy		
113	20	10.25	5.41	55.45
		Imbecility		
114	34	9.79	2.74	26.82
		Traumatic psychosis		
115	29	11.20	3.68	41.22
		Undiagnosed		
116	27	11.00	5.43	59.73

Considering the entire group of 96 mental patients, the blood serum averaged 10.20 mg. of calcium, 3.68 mg. of phosphorus, and the products of the calcium and the phosphorus content of the serum averaged 37.54.

Obviously it is desirable to compare the calcium and phosphorus content of the blood serum of the 20 students (controls) with that reported in the literature as normal for human adults. The concensus of the investigators cited above is that the calcium content of blood of normal adults is between 9 and 11 mg. per 100 cc. of serum. However, in this study the amount of serum calcium in the blood of approximately one-third of the controls exceeded the suggested maximum limit of 11 mg. Hence, in the present investigation the limits for normal calcium are considered to be from 9 to 12 mg. per 100 cc. of blood serum, particularly since the control and experimental subjects were of the same sex and age, received similar food and resided under the same climatic conditions. Moreover, the blood samples of both groups of subjects were assayed simultaneously in the same laboratory under the same conditions. In the present study the phosphorus content of the blood of the normal subjects (controls) was within the limit, 2.5 to 5.0 mg. per 100 cc. of serum, reported in the literature for normal adults.

The calcium content of the blood serum of the experimental subjects was found to be within the accepted limits (9 to 12 mg. per 100 cc. of serum) except

for a few patients. Of the mentally deficient, non-psychotic patients (table 2), only one, Subject No. 25 with 8.80 mg. of serum calcium, was outside of the accepted calcium limits. Two of the mentally deficient psychotic patients (table 3), namely, Subject No. 32 with a blood calcium of 8.85 mg. and Subject No. 42 with 12.35 mg. of calcium per 100 cc. of serum, were outside the normal limits. A similar situation was found for the patients with dementia praecox (table 4), since only Subject No. 58 with a blood calcium of 8.90 mg. and Subject No. 49 with 12.00 mg. of calcium per 100 cc. of serum were outside the accepted limits. Of the 11 patients with miscellaneous mental deficiencies, only one, Subject No. 108, a psychoneurotic with a serum calcium of 12.44 mg. per 100 cc. of serum, was outside the normal limits for blood calcium.

The phosphorus content of the blood serum of 90 of the 96 patients with mental disturbances was within the accepted limits (2.5 to 5.0 mg. per 100 cc. of serum). All the mentally deficient, non-psychotics (table 2) and the mentally deficient psychotics (table 3) were within the normal limits. Of the 57 patients with dementia praecox (table 4), 3, Subject No. 84, with 5.10 mg., Subject No. 52 with 5.19 mg. and Subject No. 97 with 5.95 mg. of phosphorus per 100 cc. of serum, exceeded the accepted maximum limit. The blood serum of 3 subjects (table 5) with epilepsy, idiocy, and an undiagnosed condition contained 5.02 mg., 5.41 mg. and 5.43 mg. of inorganic phosphorus, respectively, per 100 cc. of serum. Aside from these 6 subjects, the serum phosphorus for the mentally deficient patients was well within the accepted limits for the phosphorus content of blood.

SUMMARY

The amount of calcium and phosphorus in the blood serum was determined for 96 mentally diseased patients and 20 controls. Six subjects had a blood calcium content outside the accepted limits (9 to 12 mg. per 100 cc. of serum). Of these, 3 were slightly below and 3 slightly above these limits. The inorganic phosphorus content of the blood serum of 6 other subjects was outside the normal limits (2.5 to 5.0 mg. per 100 cc. of serum) and all cases slightly exceeded the maximum limit. However, the subjects with abnormal amounts of blood calcium had normal amounts of inorganic blood phosphorus. Likewise, the subjects with abnormal amounts of blood phosphorus had normal amounts of blood calcium. Hence the calcium and phosphorus content of the blood of nearly all of the patients with various types of mental diseases was found to be within normal limits.

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A WOMAN BEHIND IT—THE DINING SERVICE OF A GREAT RAILROAD[1]

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THE great David Garrick once wrote that "Prologues, like compliments, are loss of time." Nevertheless, I am going to preface my remarks by indulging in compliments. As I look at you, and listen to you, I am convinced we are fortunate to be in this great profession of foods. I maintain that eating is anything but prosaic. On the contrary, it is a time-honored custom which has always offered plenty of thrills and romance. Today, as never before, it presents absorbing tangents for one to explore. That you, as the explorers, are doing such a thorough and praiseworthy job should be a matter of satisfaction and pride.

We will always pay homage to those cooks of yesterday, our mothers and grandmothers. Most of us can recall their meals, not so well balanced as those we eat today, perhaps, but surpassing in quantities and richness anything we of this day would dare attempt to eat.

Most food products of those days came directly from the farm. Housewives usually bought only the so-called staples from the store. Highly processed foods were unknown. And the food shopper had to know how to buy in order not to receive inferior goods.

Today, Mrs. Housewife walks into her favorite market and has greater variety to choose from than any woman ever had before. She is told of a new product, urged to buy it, and is given recipes which help her to prepare it. Seldom does she find it unsatisfactory, because the food has been scientifically tested before being offered to her. Recipes are accurately tested to give in detail the best methods of serving the product. The chance of failure is remote. But does Mrs. Housewife or her family ask "Who does all this?" Now we of our profession know that a dietitian, a woman, is behind it all. And, I am glad to note, the executives of food-producing firms are now aware that in order to market their goods successfully, a woman's stamp of approval is necessary.

Not so long ago doctors used a more or less "trial and error" method in prescribing food for their patients. Today, even the smaller hospitals employ a dietitian to direct the preparation and service of foods for the patients. We have come to realize that sick or well, food has a great deal to do with health. And here, again, we find a woman behind the scenes to guide and direct.

Recently I had a chance to talk to the home economics teachers of California. I was amazed at the extent of their courses. Recalling the meager courses, in a few schools, when home economics first was introduced, we must realize that it took persistent effort on the part of those pioneer home economists and dietitians to convince school authorities that training in food preparation was essential to a girl's education. Again, I say,

[1] Read before the General Session, American Dietetic Association, Los Angeles, August 29, 1939.

because women strove valiantly for their cause, a great success has been achieved.

Time was when housewives collected recipes from the neighbors. Perhaps the cook book was a family heirloom. The woman's page in the farm magazine possibly offered a little help. However, most of the recipes had to be adjusted to suit the cook's particular needs—often the instructions given were rather vague. Women who lived near large cities, or in them, could occasionally hear food talks given by demonstrators, primarily to sell cookstoves. I once conducted cooking school demonstrations for gas and electric ranges. We thought then that we were accomplishing marvels. But when I see the modern industrial test kitchens, the unlimited varieties of foods, and the very efficient way that combinations of foods are assembled today, I must admit that dietitians and home economists have come a long way from those first attempts of ours to aid housewives in feeding their families.

Through trial and error, research and painstaking study, women again, from a small beginning, have created a great field in the art of finding better foods, better prepared, for better living. Then came the radio. Today one woman expert can tell the whole nation how to make a pie crust. Radio is a boon to everyone, the housewife, the food expert, the young bride, the company which prepares our food products.

It is, I think, a rather excusable habit with most of us to talk about our own particular jobs. Several have asked about my own work with the Union Pacific Railroad dining service. In the last few years railroads have become more concerned about balance and preparation of meals. I believe it will not be long until every major railroad will have a dietitian in its dining car department to check the preparation and service of meals, to build better recipes and in every possible way endeavor to give the travelling public the best in foods with the greatest economy. When I went with the Union Pacific I knew they considered me an experiment. Neither the home office nor I had a very clear idea of what I was expected to do. But they did know they wanted better food, better service.

After one trip over the lines, I realized that if I were to have a job I would have to create it myself. There were plenty of men in the system, trained and efficient, who were doing an excellent job feeding the travelling public. So I decided I should approach situations and problems from a woman's point of view. Sixty per cent of our travellers are women, and I suspect a good many men take the route their wives suggest. We have 10,000 miles of rails. Our dining cars are really restaurants rolling along at a mile a minute. I concluded the best way to know how and what to serve was to ride on our railroad. So I average about 12,000 miles of travel a month. Tiresome? Indeed not, I am still unsophisticated enough to get a thrill out of boarding a train and I doubt if I will ever get over that feeling. With always something new, something to laugh about, something to work at, new faces, new situations, is it any wonder that railroading gets into one's blood?

When I board a train I soon find my way to the dining car and kitchen. I talk with the chef about preparation and portions. I check supplies—the quality, quantity, the manner of storage. You see, our kitchens haven't as much space

as one in an ordinary apartment, so every inch of it must be utilized to the best possible advantage.

I talk with the steward about his problems and give and receive suggestions. In the afternoon I always try to have a meeting with the entire dining car crew. Did you ever notice how often, if they are given the opportunity, employees offer very good suggestions? I find it good psychology, therefore, to let them express ideas in their own way. It quickens their interest in their jobs, and the ultimate success of a traveller's meal rests with the entire crew. I eat in the diners. I talk to the guests. I hear their reactions. Not infrequently I am given a favorite recipe. And we use some of them, too. I carry a little red notebook with me which I call "Meals, Miles and Merrill." I have everything in that book from a recipe for sautéd snails to addresses of interesting people.

Last year the Union Pacific served six and one-half million meals. While I did not see quite all of them served, I know from checks I have made, and from 100,000 miles of personal observation, that people away from home like to have much the same foods they have at home, in about the same varieties, and prepared in much the same manner. We build our menus with this experience in mind. We try to select the best seasonal as well as the unusual foods, and we feature the products of the country through which we pass. For instance, we get our heavy meats such as roasts and steaks, from Nebraska or the Midwest. We have potatoes and other vegetables from the states farther west, or from the coast. From Wyoming and Idaho we get lamb. California provides many fruits and vegetables; the Northwest, seafoods. Only the best quality of foods is used. We age our own meats in the commissary at Omaha. Commissaries are also located at Los Angeles, Portland, Kansas City, Denver and Ogden. Thus we have a fresh supply of perishables always available, and a steward may always wire ahead if his stocks are getting low.

We change our menus once a month, and we provide different menus for different trains. With each change, the recipes are given the chef, together with instructions as to the portions to be served. I am often asked how we know how much food to stock in a diner. We use the law of averages; and we are assisted in our calculations by information furnished by our passenger department so that we can approximate quite definitely what our requirements on a given run will be.

I realized one of my dreams recently when a test kitchen, with all modern equipment, was established in Omaha. We maintain a chef there to test recipes and new combinations of foods. I always spend some time there myself when in Omaha. We believe this kitchen enables us to build better menus, and it also makes possible more accurate instructions to our travelling crews.

From this test kitchen came another idea. We are now broadcasting programs in the form of playlets over a large group of radio stations in which we preach the gospel of better food in the form of dramatic entertainment, and offer the various recipes created in our test kitchen. In considerably less than a year, we have mailed out close to half a million of these recipes. To vary the programs, I have recorded a number of talks which have been used on this series, entitled "Surprise Your Husband." Not

only have these programs been good advertising for our railroad and its dining service, but I believe we have contributed very definitely to the cause of better food.

Through circumstances which naturally arise, and through having some of my own ideas accepted, my job has become rather versatile. At present, for example, in the round of my travels, I am stopping off whenever possible in the cities where our radio programs are being broadcast. Over the air, I give a fifteen-minute talk about our service, and what I have found from my experiences that might be helpful in managing food production in the average household.

A year ago last spring everyone connected with the railroad was urged to promote Sun Valley. Recreational pastimes, skiing and resorts seemed a world somewhat apart from my job. But it occurred to me that, after all, it was the woman of the family who usually determined where vacations should be spent. What did Sun Valley offer to women? Well, women derive much pleasure from buying clothes they are to wear hunting, fishing, or skiing. I proposed a style show to sell women the idea of going to Sun Valley. We tried this out in Omaha and it worked. As a result, during the summer and fall every city large enough to warrant it has given a style show demonstrating what lovely sports, evening, afternoon and dinner clothes women could display at Sun Valley. Shows were given as far east as New York, as far south as Dallas, Texas. It was gratifying to know that many women who attended these shows did go to Sun Valley.

I should like to believe that this little digression into my own field proves there are real opportunities for women in foods. There are, of course, many other phases: tea rooms, restaurants, hotels, utility companies, food product propaganda and the like. Almost entirely through their own efforts dietitians have enlarged the scope of their endeavors, and the end is not yet. Improvements of the future will have women behind them if we will only seek our opportunities.

Even you who have achieved success, I am sure, are deeply interested in the future of the younger women who have yet to build their careers. Each of us has a very definite service to render, but we must keep our minds open to the possibilities of greater achievements both for ourselves and for the newcomers to our field.

Man must eat to survive. He is doing a better job of it today than ever before; the span of life has increased very measurably. America is a paradise of delectable foods. No people have such variety, and thanks to the women of our profession, Americans are coming to appreciate more and more the pleasures of eating. I would not like to think we live only to eat, but from my experience in travelling with the American public these past four years, I know that delicious food makes us enjoy living a lot more.

So what has the future to offer women in the field of foods? I think it is not a question of opportunities, but rather one of how we shall develop those unlimited opportunities. Let us never permit any feeling of defeat. Don't ever allow yourself to think that all the worlds have been conquered and that there are no more opportunities. We still have horizons to explore. Long before the Civil War, a congressman

introduced a measure to abolish the patent office. He said everything had been invented that was worth while, so there was no use maintaining such a needless bureau. I'm afraid we are sometimes prone to take just such an attitude about jobs.

Research and test kitchens to me seem to comprise one of the biggest fields today. The filbert growers' association of the Northwest, through an advertising firm, are using a dietitian to build recipes for uses of filberts. Such ideas as filbert butter, filbert meal for muffins, waffles, pancakes, and the like are being developed. I am particularly interested in this because I have an acreage just planted in filberts near Portland. We won't have nuts for a few years, but I am certain by the time our trees do produce, housewives will have filberts on their staple lists.

A few weeks ago we broadcast a program about orange bread. From the number of requests we've had for the recipe, I am certain more oranges are being sold. Last year the Idaho farmers grew too many onions and potatoes. We featured on our menus French fried onions rolled in potato meal. In one month we gave away 2500 pounds of potato meal in preparing onions served to American travellers. These are just a few ideas that have brought results for food producers. You women have impressed the executives of food companies with the idea of menu building to sell their products. You can continue to do so and enlarge almost without limit the markets for their goods. Wherever there is food to sell, prepare or serve, there should be a woman behind it!

It is not an easy job, even though those women who pioneered in this field have smoothed out a lot of the rough spots. But I am sure there are plenty of younger women in the profession with sufficient determination and ingenuity to carry on to new and greater triumphs. The woman seeking a position today will be wise to convince the employer that she is not usurping a man's place, that on the contrary she offers some definite service from a woman's viewpoint that a man cannot fill. She should assure executives that she is making her own job, one which will give an added impetus to the business which a woman alone can give. She must have faith and pride in her own profession.

In conclusion, four years ago I had an opportunity, but no job. I bestirred myself and made the opportunity a *job*, yet each day still seems to open new vistas, new possibilities, and my employers think well enough of what has been done to encourage me to go ahead to new things. What I have done can be done again, and again and again, just as some of you veterans in the field who are here today have seen your work expand and repeat itself almost without end. It is the woman behind it who makes the job what it is!

DIETETIC HIGH LIGHTS OF A YEAR IN EUROPE[1]

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IN SEPTEMBER, 1937, my husband and I left Boston for a year's stay in Europe. With tremendous eagerness we looked forward to the great adventure, but nothing in our most enthusiastic anticipations could have equalled the variety and fascination of the experiences of that year. As we think back upon it, hosts of memories crowd in upon us: of our thrilling meetings with the great Sir Frederick Gowland Hopkins, of our stimulating talks with Scottish and Swedish nutrition workers, of our illuminating visits to the hospitals of England, Ireland, Italy, Denmark. Lighter memories, too: of the substantial nature of breakfasts in Scandinavia, of the delicacy of crepes suzettes, of the special flavor of *vitello* served in Rome on Christmas Day. And sadder memories: memories of pale-cheeked, hungry-eyed children, who, though they spoke the varied languages of England, France, Italy, Norway, were in one respect indistinguishable one from the other—and alas, from our own underprivileged American children as well. By far, too many bore the unmistakable stigmata of malnutrition.

Although the scope of this article precludes a detailed discussion of the fundamental nutrition problems which transcend national and cultural boundaries, or even of all our experiences which touched on this subject, it may be possible to sketch a few of the year's high lights, both scientific and culinary, and to tell something of our reactions as we crossed frontiers and met new faces, new languages, and new foods.

Highest of high lights was our meeting with Sir Frederick Gowland Hopkins, or, as he is addressed in England, Sir Gowland. Awed at the prospect of meeting the famous man who, as far back as thirty years ago, prophesied the importance of "unsuspected dietetic factors", we entered "The Professor's" Cambridge office on a gray October day. But all awe was soon dispelled, for in the frail and white-haired person of Sir Gowland is blended the courtesy and kindliness of the traditional English gentleman, and the gentleness and humility of the truly great. When my husband, awkward in the presence of one so eminent in the realm of science, fumbled and dropped his hat, Sir Gowland quickly bent to pick it up. When tea was served in the Biochemical Institute, Sir Gowland, sensing the timidity of the young foreigner, himself brought me my tea and scones. Modest and unassuming, a Nobel prize winner, at 77 he is still actively engaged in research and teaching.

Though he has now turned from his earlier work on the isolation of tryptophane and glutathione to studies in cellular oxidation and reduction, Sir Gow-

[1] *Editor's Note:* As this paper goes to press conditions in the countries described by Mrs. Alexander have already undergone marked changes since her paper was written. Her story pictures that period just preceding the present cataclysmic state in Europe in which these northern peoples now are struggling for their existence. What the outcome may be by the time this issue of the JOURNAL appears, cannot be foretold; we can only hope that not all of that sturdy little country, Finland, or any of its Scandinavian neighbors' landmarks, will have been obliterated.

land's earlier research in accessory food factors is being followed by his associate, Dr. Leslie Harris. Advanced biochemistry students in Cambridge University, many of whom are preparing for medical careers, receive from Dr. Harris a complete course of lectures on the history, chemistry and function of the vitamins. Thanks to Sir Gowland, I was permitted to attend lectures during our stay in Cambridge, and also to accompany the students when they bicycled out to the Nutrition Institute where Abbasy and others demonstrated the biophotometer, the Harris bradycardia tests for assaying the vitamin B_1 content of biologic material, and both the 2,6,dichlorophenolindophenol titration and capillary resistance tests for ascorbic acid and scurvy.

Each afternoon, whatever the matter in hand, there was always a pause for tea. To students and professors alike, afternoon tea is an inviolable tradition, essential for its social and recreational as well as for its nutritional value. Throughout the kingdom, the custom of taking afternoon tea is sacrosanct. Tea-time is respected by Cook's in their arrangements for tourists; time out for tea is granted to the humblest employee of a department store. The working man has his tea at one of the Lyons chain tea-shops located on every other corner in London; the fashionable ladies at matinees sip their tea during specially prolonged intermissions. In all the land there is scarcely an exception; for every adult and apparently every child, tea is almost indispensable, at breakfast, at lunch, at dinner, and in the afternoon.

Traditional, too, is the menu for the British Sunday dinner. Comes Sunday, and the unmistakable aroma of cabbage pervades the air, floating from the windows of thousands of English homes, where thousands of Englishmen are sitting down to the only possible Sunday dinner—roast beef, cabbage, and Yorkshire pudding.

There is much in the nomenclature of English foods to surprise the American, who somehow expects to find more similarities than differences in language in the country of his mother tongue. All unsuspecting he orders tea with biscuits, but the luscious hot biscuits rising before his mental eye become in actuality a common variety of cracker. He learns that food comes not in cans but in "tins", that vegetables are "greens", that "sweets" means candy, and that when he specifies "fish and chips" he may expect his fish to arrive surrounded by French fried potatoes.

Another surprise to the American who has always accepted casually the homogeneous origin of food products in the United States, lies in the discovery of the diverse and distant sources of English foods. The meat comes from Argentina and New Zealand, the butter and eggs from Denmark and Sweden and Finland, the oranges from Spain and Palestine, the "tinned" and dried fruits from California. Fruits and vegetables brought from such distances are expensive, and varieties which are a commonplace throughout the year in any United States market are relatively scarce in Britain. Oranges and eggs are a luxury such as the English housewife prices not by the dozen but by the piece. Asparagus and artichokes, which in our country appear on even modest tables, may in England be enjoyed only by persons of comparative wealth.

Under such conditions, to spread the gospel of milk, fruits and vegetables in

the British Isles is a task of herculean proportions. One tremendous obstacle lies (as unfortunately in our own and other lands) in the appalling poverty of a vast portion of the population. This fact was emphasized by Sir John Boyd Orr in his 1937 report, *Food, Health and Income*, in which he estimates that 20 to 25 per cent of the children in England belong to the population group which is able to expend only four shillings ($1.00) per week for food, per person. He states further that less than 50 per cent of the British population has an income sufficient to assure a diet which meets all nutrition requirements. One is forced to conclude that the nutrition worker in England has a long way to travel before she can hope to attain her goal.

Just over the North Sea—and a very rough sea it may be!—lies Denmark. In this picture-book land which normally ships tons of butter and crates of eggs to those fortunate Englishmen who may buy the relatively fresh Scandinavian dairy products rather than butter and eggs from far away New Zealand, the culinary ideal is "to cook food in butter, serve food with more butter, and eat food with still more butter". The national dish is "smørrebrød"—butter-bread. It was no misnomer which placed the butter first, for razor-thin black bread is but a fragile support for a thick, rich layer of butter surmounted by a mound of anything from a meat-cheese-pickle combination, to salmon and egg and radishes, or even fruit salad. Copenhagen's charming squares are dotted with little stands, offering "warme Pølser", literally roll-less hot dogs, and smørrebrød to the hungry passerby. In Tivoli, the unique amusement park where one feels transported to Hans Christian Anderson's fairyland, are little refreshment booths, where the democratic Danes of all classes share in the enjoyment of home-made smørrebrød and good Danish beer.

Unfortunately, however, smør does not mean genuine smør to all the Danes. In Denmark, too, one is witness to a country's waistline tightly constricted by economic pressure. Since the nineteenth century, when Denmark, alarmed at rapidly increasing world competition, changed from a grain to a dairy economy, the Danes have been financially dependent upon the export of butter and eggs. In consequence, one faces a strange paradox: in a country where there is said to be a cow for every two persons, where it seems that every other inhabitant is a "butter and egg man", and where the first significant observations were made on the relation between vitamin A deficiency and xerophthalmia, many of the natives are compelled to spread their bread with margarin.

A high premium is placed on vitamin C also. Far from the sources of citrus fruits, the Danes must pay exorbitantly for these foods; in May, the market price for three diminutive oranges was one krone (twenty-two cents), and for a grapefruit, a half krone. Vegetables, also, are too scarce to play a large part in the diet, though when they can be obtained, vegetables and fruits are greatly relished. During May, the rhubarb season, and June, the month of strawberries, these two fruits appear on every menu. The berry juices are used in the preparation of Denmark's favorite dessert, "Rød Grød med Fløde", which all visitors must sample but only the Danes can pronounce.

On the whole, the vitamin C intake

seemed to us to be very low, and we often wondered that signs of deficiency were not apparent. On the basis of accepted nutrition requirements, one would expect to see the Danes bleeding from the gums and dragging through the streets with aching joints; but with a disconcerting disregard of textbook standards, the husky, healthy Danes seem to be completely unaware of their lack of vitamins. Actually, I had expected them to be distinctly vitamin conscious, for I beheld huge signs on many windows, "Fod Klinik"; I was disillusioned, however, with the discovery that the proprietors were not dietitians, but chiropodists!

Nevertheless, Denmark is adding much to our knowledge of nutrition and dietetics. The contribution of Dr. E. Meulengracht to the dietary treatment of ulcer is now well known, and we found in speaking with him that he is increasingly convinced of the beneficial aspects of his type of therapy. The visitor, to be sure, may suspect that environment, as well as diet, plays its part in the recovery of Dr. Meulengracht's patients, for Bispebjerg Hospital where Dr. Meulengracht is chief of one of the medical services, to me was unquestionably the hospital high light of the year. Within a number of small three-story buildings, each one resembling an English country house completely surrounded by gardens, are wards whose walls are decorated with gaily colored frescoes. The bedridden patient is cheered by the delicate fragrance of lilacs and "golden rain", and by the vista from his windows of exquisitely landscaped lawns and flower beds and trees. And when he is ambulatory, he may share his meals with other patients in a large airy sitting room, warm and cheerful with plaids and brass and copper. Yet this is a municipal hospital—surely unique among such institutions.

Unique, too, is Copenhagen's Carlsberg Laboratory, in that this excellently equipped scientific center derives its support from a mercantile concern. Ever since Dr. Jacobsen, the original owner of the Carlsberg Brewery, established a foundation for the promotion of artistic and scientific effort, the business has been directed by members of the Royal Danish Academy of Science and Letters, and the net profit of this flourishing brewery is turned over to the foundation, which in turn helps to maintain the Carlsberg Laboratory. The worker there is under no restrictions and may study any problem in which he happens to be interested. The director of the Biochemical Department of the Carlsberg Laboratory, Dr. Karl Linderstrøm-Lang, and his colleagues have devoted many years to the development of microtechnics so delicate and so accurate that work on incredibly small sections of biologic material and experimentation with hitherto baffling problems concerning the structure and chemical composition of minutest tissues is greatly facilitated. When interest is concentrated on subjects closely related to nutrition, as in one recent study on the hog's stomach, dietitians may well watch these experiments, and perhaps look to Denmark for possible clarification of some of the innumerable questions which puzzle physiologist, physician and dietitian alike.

Even after our stay of four months, we left Copenhagen with regret, but we found much to interest us in the other Scandinavian countries. While in Stockholm, we were privileged to meet Dr.

Ernst Abramson, who discussed with us the nutrition survey he made in Sweden, and the project he is now organizing, the object of which is instruction of the public in the essentials of an adequate dietary and the wise use of food money. The nutrition problem in Sweden, Norway and Finland, as outlined to us by Dr. Abramson, is a geographic one; for the northerly position of these countries decidedly limits the amount and variety of their food production, and consequently the national food intake. This was hard to realize during our stay in Stockholm, whose handsome buildings, large parks and countless winding waterways were at that time of year suffused with sunlight for eighteen hours a day, and whose restaurants provided excellent meals, expertly prepared and beautifully served, at nominal prices.

Similarly, in southern Finland, we were unable to appreciate the full significance of Dr. Abramson's emphasis on geographic considerations. More immediately striking were the effects of clashing historical influences and of rapid modernization. The smörgåsbord, served at breakfast as well as at noon and at night, suggested the Finn's relationship with his western Scandinavian brethren, while the habit of drinking tea from glasses recalled Finland's former domination by Russia. Russia is suggested also in Helsinki's huge, treeless squares and gilded churches, and in the high cheekbones and broad faces of the people. Prominent in every aspect of Finnish life is a determined drive toward development, and a pioneer spirit which in its progressiveness seemed to us to outstrip even that of the other Scandinavian countries.

Because Finland has for only twenty years been free to strike off the shackles of the past, one meets on every hand the most striking contrasts. At Valamo, an ancient monastery close to the Russian border, we saw bearded monks, at work and at prayer, duplicating in all the aspects of their lives the activities and environment of medieval monastic existence. But in almost every town in Finland are factories, hospitals and schools which in every gleaming detail are the exemplification of the most modern architecture. In Rovaniemi, on the Arctic Circle, are antiquated farms where tilling and weaving and housekeeping are still performed with the aid of only the most primitive tools; but there, also, has arisen a magnificent modern hotel, the last word in concrete, glass and metal design.

It is no surprise, then, that even in matters dietetic there is indication of a modern outlook and a break from tradition. The old-timers may sip tea, but the favorite drink of young persons, in restaurants, on trains, and—amusingly enough—in night clubs, appears to be milk!

Everywhere in Finland we were carried away by the unsurpassed beauty of its myriad lakes, streams and forests, as we glimpsed the country from train and steamer and bus. But our most vivid impression was of the determination and power of this virile nation. And as the mail bus carried us beyond the farthest limits of the railroad, deep into the Arctic Zone, we began to comprehend the fierceness of the battle for survival which must constantly be waged by these northern peoples. For endless miles, stunted trees and great boulders lined the road; the few inhabitants of the widely scattered villages were homely little Lapps, caring for the herds of reindeer upon

which they depend for food, shelter and clothing. Snow fences and sleds stored beside the road were mute reminders of the shortness of the summer season; the sun, which during our stay, shone for all twenty-four hours of each day, was soon to sink behind the horizon, giving way to a lingering, icy night.

Northern Norway is, if possible, even more barren than northern Finland. In Kirkenes, a tiny town nestled in the crook of an arm of the Arctic Ocean, the houses are painted blue and green and red and orange, in what we thought a pathetic attempt to supply the colors of the flowers withheld by Nature. Here, one exciting midnight, we saw the shadows of dusk miraculously tinted with the pink of dawn, when the setting sun, pausing while yet well above the horizon, once more began its upward journey. For one entire week thereafter we viewed Norway in continuous sunlight, and we wondered that even the constant sunshine of summer could so completely fail to soften the desolation of the dreary towns on the Arctic Ocean, cowering between the frigid storms and fogs of the sea before them and the chill blasts sweeping off the barren, rocky mountains behind. Our little steamer carried us from town to town, all of them alike smothered in an odor of fish that was so dense it could almost be seen and felt as well as smelled. In every open space were racks of drying fish nets or drying fish skeletons; on every pier stood huge pyramids of fish bones, soon to be converted into fertilizer; and somewhere about was always a weather-beaten structure, consecrated to the production of fish-liver oil. Along this rock-bound coast all life revolves around the denizens of the deep. Fishing is the chief (one would almost say the sole) industry, and fish apparently the chief source of nutrition.

In southern Norway existence is less difficult. Snow-topped mountains afford eternal protection to serene fjords, and to valleys fertile and beautiful as a dream of the Garden of Eden. Yet even in this section, possessing, besides almost incredible beauty, fertility of soil and abundance of water, the shortness of the summer season combines with the factor of low individual incomes to produce serious nutrition problems. We often wondered whether the indispensable smörgåsbord, rich though it be with cheeses and dark breads and meats, could not be supplemented to advantage by foods or concentrates guaranteeing a more nearly adequate food intake.

Dietary inadequacy, we concluded, was to be encountered in every country. This is the most poignant of all the dietetic impressions remaining after a year abroad. No doubt we shall some day forget our distaste for fish and chips; our new vocabulary, including "friske Grøntsager" and "Lever" and "Maelk", will be forgotten; the memory of delicious Wiener schnitzel, Swedish style, will fade. But never shall we forget the sight that met us, over and over, in every country, regardless of culinary specialties or idiosyncrasies, regardless of national temperament or of geographic, economic and political status—the sight of the pitiful physical specimens whose aspect cried aloud the story of malnutrition. And we returned to America only to be met on every hand by evidence that even in our own seemingly blessed land there exists the tragedy of thousands of similar cases.

Unquestionably, there are economic factors at the root of this condition, factors over which we may have little control. But as dietitians we cling to the belief that this evil can be modified by the power of education, that herein lies our responsibility and our privilege. When one realizes the enormous need, everywhere, of intelligent, experienced dietitians and nutritionists, one takes up one's work with fresh stimulus. Newly inspired, one determines to attack, with every available means, the vicious obstacles which today impede the way to optimum nutrition for the underprivileged peoples of all lands.

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The Chinese and Food

PLEASURE IN FOOD has been synonymous with Chinese culture far back into Chinese antiquity, in fact into unrecorded time. But Confucius (551–478 B.C.) said many wise and beautiful things as to the desirability of eating well, and the virtue of fine food. It could be said, indeed, that as one of the few dependable joys of human life, the Chinese have as much respect for food as for learning or religion. The Chinese love of cooking is an important element in their conversation. They share with the French a preoccupation with cookery, and both races love to speculate upon, exchange opinions about, and anticipate its pleasures. Scholarly essays on the culinary art permeate the whole of Chinese literature, and Chinese poets sing of food, as the Occidental poet sings of love. Food is accepted by them, in fact, with the same philosophic attitude as they accept sex, or catastrophe, or women. Li Liweng, one of the great poet-dramatists of Cathay, wrote feelingly of cooking; Yuan Mei, great scholar, authored a book on food; while that delightful Chinese modern, Lin Yutang, in *My Country and My People*, devotes a chapter to this ever intriguing culinary art. Through the centuries the Chinese have arrived at what I term an automatic balance in a meal. It is almost impossible to find an out of balance Chinese dinner. They have a sense of food *texture* which is as delightful, crisp and brittle, as it is piquant in flavor. In Chinese food we sense qualities which stem directly from those centuries of progress and devotion to art, which through many dynasties, upheld their world supremacy. They were great experimenters; they learned the value of many roots, and herbs, and other growing things which to us remain exotic. They perform miracles in the alchemy of reciprocal flavors, of principles of mixture, of delicate combinations. They have, as do few peoples on this ancient earth, the *instinct* for food.—*Armitage, M.: Fit for a King, New York: Longmans, Green & Co. Inc., 1939.*

EDITORIAL

NUTRITION—AN INTERNATIONAL PROBLEM[1]

At the nutrition conference held at Cornell University in July 1939, and briefly described in this JOURNAL for October 1939 (pages 704–706), Sybil L. Smith of the Office of Experiment Stations, U. S. Department of Agriculture, discussed the above topic from the point of view of a participant in the second meeting of the representatives of national nutrition committees at Geneva in the fall of 1938[2], at which reports of nutrition studies carried on in fifteen countries were presented. Her discussion, therefore, was an intimate, fascinating account of rapidly moving world-wide events.

In the first part of her talk, Miss Smith traced developments when, through the League of Nations' efforts, various governments began to be impressed with the fact that national health and well-being depend as much on nutrition as on sanitation. Plans for concerted international action on nutrition problems were formulated in October 1932. Requests from various countries for assistance in appraising the health of their people necessitated the appointment of committees to work out general and specific suggestions for making dietary studies and clinical examinations. Attention was focused upon the best use of foodstuffs for low income families and the unemployed.

In 1935 Drs. Burnet and Aykroyd's report on Nutrition and Public Health gave great impetus to a consideration of nutrition not only as an important part of public health but also as a social and economic problem. A mixed committee including agricultural, economic and health experts was then appointed to study the problem as a whole. Their report emphasized needs for international action along three lines: exchange of ideas and information among nations, coordination of research so that data obtained may be comparable, and international cooperation in economic and social policy.

These various activities by many experts, and their publication in the League of Nations' bulletins and as special reports have given world-wide dissemination to the policies developed. How different nations have applied them to their own national health problems was the basis of the reports from the various countries.

Because of time limitations, Miss Smith omitted accounts of each country's nutrition work and grouped certain activities, discussing them as reported by representatives.

Dietary studies were considered of

[1] Based on an address by Sybil Smith at a dinner meeting of the Nutrition Conference, Ithaca, July 22, 1939, as abstracted by Anna dePlanter Bowes, Director, Nutrition Education, Philadelphia Child Health Society.

[2] The published report of this 1938 Conference is entitled "Survey of National Nutrition Policies, 1937–38" and is one of a series of League publications: II. Economic and Financial, 1938; II.A25; and Official No. C.478.M.321. Other reports of interest are: "Nutrition and the Public Health", representing the proceedings of a national conference on the wider aspects of nutrition held in April 1939, and published by the British Medical Association; and "An Inquiry into the Diet of 301 Poorly Situated Families in Norway", by K. Evang and O. G. Hansen, published as Supplement C.III to *Acta Medica Scandinavica*.

first importance by the League. Eleven countries reported dietary studies under way or completed, ranging from the qualitative survey type to quantitative home methods.

Iraq's representative spoke with discouragement of the difficulty of conducting food consumption studies in families with several wives, innumerable children and an uncertain and shifting number of relatives. The most extensive study reported was from Australia, a detailed summary of which appeared in this JOURNAL for November 1939.

In Finland all food and table waste was weighed for 54 working class families in seven rural and two urban communities. Poverty appeared to be the chief cause of inadequacies in the diet which in some instances furnished less than 75 per cent of the calculated calorie requirements. Milk consumption averaged a liter a day in Finland as a whole.

In Latvia detailed comparisons have been made under government auspices of food consumption data for 1926–27 and 1936–37 for workers' families in Riga. The very encouraging results showed there had been a decrease in food expenditure of from 53 to 40 per cent of total expenditures and an increase in the consumption of milk and dairy products, meat, vegetables and fruits. A similar comparison for farming areas in 1927–32 and 1936–37 showed an increase in total calories for milk, butter, meat, eggs and wheat, and a decrease for rye, sugar and salted herring.

Eleven countries reported studies on nutritional status. Miss Smith considered most unique the study conducted in Australia on a large number of children in remote inland areas. A combination dietary and detailed nutritional status study of selected children in families is being conducted in Scotland under the direction of Sir John Orr. In Yugoslavia, physicians have been asked to register all cases of vitamin deficiency diseases to show the connection between religious fasts and deficiency diseases. Rickets was very common, also pellagra, and epidemics of hemeralopia in adults and other eye diseases in children occurred during the fast before Easter.

Practically every representative had something to say about the principal cause of malnutrition in his country as brought out by the dietary and nutritional status studies. Ranking ahead of poverty was ignorance, either in planning production to meet consumption needs or lack of knowledge of nutrition and cooking. Latvia seemed a model country as to methods which had been adopted to improve nutrition. "Guaranteed prices have been fixed by the government for most important agricultural products to maintain the balance between producer and consumer and eliminate unnecessary middle-men. The quality of milk has been improved through bonuses offered by cooperative dairies. Fruits and vegetables are graded. There has been a planned expansion in the production of fruit juices. A large company of centralized bakeries supplies town and urban population with good quality bread at prices fixed by the government. Special attention has been given by the Chamber of Agriculture to improving rural nutrition, and cooking classes have been organized in rural communities." In Hungary lack of money was mentioned as one of the causes of malnutrition. Only half the

population takes part in economic life through money.

The Oslo breakfast is a standard meal given free to all school children in Oslo, Norway, whose parents so desire. It has also been adopted in other parts of Norway. The breakfast consists of one-third of a liter of milk, butter, whole grain bread, cheese, half an orange, half an apple or a raw carrot, and cod liver oil from September to March.

In Great Britain, nearly half the children in public schools obtain milk daily at a very cheap rate. If a family cannot afford a proper diet, the school child may receive free milk, free meals or meals at reduced prices.

In Latvia over 90 per cent of the elementary school children were receiving hot lunches with a variety of dishes either free or at very little cost. For workers, the government has established restaurants where meals are provided at very low cost.

In Hungary, the government has taken steps to improve nutrition by direct relief. Pregnant and nursing women from the fourth month of pregnancy to the sixth month of nursing, and babies and children up to three years, receive 500 cc. milk daily; children between three and five receive 250 cc. milk daily throughout the year and from six to eleven years 250 cc. for five months in the year. Milk is free to children whose parents earn less than a given sum. In addition, the Green Cross has furnished food free to poor children in village schools. In Budapest 16,600 poor children are being similarly fed.

Miss Smith concluded her talk by calling attention to research in nutrition being done in America through the land grant colleges and the study being conducted in New York under the auspices of the Milbank Memorial Fund, the U. S. Public Health Service and Cornell University Medical School. The latter has been discussed in the *American Journal of Public Health* by Boudreau and Kruse under the title of "Malnutrition, A Challenge and an Opportunity." Miss Smith suggested this phrase might well be adopted as a slogan by nutrition and public health workers everywhere.

Siam was not represented at this particular League meeting, but has reported a study on the "Height and Weight of Population with Comments on Diets" in the *Siam Science Bulletin* for April 1939. Dr. Yong Chutima, medical inspector of health, conducted a survey in all representative areas of the kingdom, measuring and examining over 10,000 children.

A series of 26 tables, 8 graphs and 36 photographic reproductions give most interesting details of all findings. A general condition of underweight is predominant for all types with a more marked deviation from normal among Siamese girls. This country-wide picture of malnutrition is definitely attributed to the diet, despite the general opinion that "the Siamese are tropical people and therefore must be small, short, thin and weak and are always anemic owing to the tropical heat."

Dr. Chutima pointed out that the average Siamese eats only two meals a day, late morning and late afternoon, consisting principally of 90 per cent white polished rice with large amounts of hot irritating condiments such as chilli and peppers.

Children and young women are for-

bidden by ancient doctrine to eat any fair quantity of animal foods, which are branded as toxic. These restrictions apply especially during the last months of pregnancy and one to three months following childbirth. Thus at this time orthodox women are practically deprived of all foods except rice and salt and as a result there is a high infant mortality rate and beriberi and anemia are very prevalent.

Despite the present undesirable dietary routine and health statistics, Dr. Chutima pointed out that Siamese youths are highly susceptible to modern ideas, and reform could be rapidly undertaken through the channels of physical culture for the young population.

CURRENT COMMENT

THE DIETITIAN IN PUBLIC HOSPITALS[1]

CHRISTINE R. PENSINGER

The dietitian in a public hospital has a problem at the very beginning unlike that of the dietitian in the private hospital. The public hospital is supported by taxes or assessments and every taxpayer, if he desires, can question its management. The dietitian in a public hospital must not only be a nutritionist and a good manager, but she must also be a diplomat, and public opinion must be taken into consideration when feeding patients in public hospitals. The State of Illinois has 27 institutions under the Department of Public Welfare, and in these institutions dietitians are feeding about 63,000 persons three meals a day. Approximately $11,000.00 is spent daily for raw food, and the dietitian is responsible for this expenditure.

Since public opinion is such an important factor, the dietitian must constantly keep in mind the reaction of the public to the management of the dietary department. For example, it might be more economical to serve turkey instead of chicken for the Christmas dinner. However, there are a great many taxpayers who may not be able to give their families turkey for Christmas, and they are apt to resent a newspaper notice that the charity patients in the public hospitals will receive a turkey dinner with all the trimmings. The patients in the public hospital must be given an adequate amount of well prepared food, but so-called luxury items should not be included in the menu.

In requisitioning and ordering food, it is first necessary to determine how much will actually be needed for a given period, *i.e.* one, three or six months, or a year. The amount of food needed is influenced by the population, age, sex and activity of the patients in the hospital. The type of food requisitioned depends on the budgetary allowance. Therefore, the dietitian must decide whether she is to feed the patients an adequate diet at minimum cost, moderate cost, or on a liberal diet. With a few minor changes the diets suggested by Stiebeling and Ward in "Diets at Four Levels of Nutritive Content and Cost", can be adapted to meet the needs of any mental hospital. If the chief clerk and the storekeeper have been in the habit of requisitioning the type and quantity of food which they considered

[1] Abstract of an address before a dinner meeting of dietitians in public institutions, American Dietetic Association, Los Angeles, August 30, 1939.

suitable, they may be reluctant to give up this authority. Seven years ago the dietitians in the State Hospitals of Illinois were not permitted to requisition the type or quantity of food they required.

The Illinois prisons for men are using the minimum cost, adequate diet for hard working men, with the meat allowance increased one-third. The patients in the mental hospitals are fed the adequate diet at minimum cost for moderately active persons, with the exception of this same increase in the meat allowance. This basis has been in use for five years. The children's and veterans' institutions use the adequate diet at moderate cost.

The dietitians in the Illinois institutions now requisition food for three months at a time, and the date on which the food is to be delivered is specified on the requisition. When planning food needs for the quarter the dietitian must determine approximately how much food the institution farm will produce before she can determine what is to be purchased on the open market. A form has been developed termed the "Kitchen Forecast" for use in estimating the produce which the farm will furnish the kitchen; using this, the farmer compares his actual production for a given period in the preceding year with what he expects to produce for a like period in the current year. This is merely an estimate, but the dietitian must have it to determine the amount of food to be purchased on the open market.

The cafeteria type of service has been adopted as the most economical method in the mental hospitals of Illinois. At first there was some question whether this service would be practical for all types of mental patients, especially the more violent. It is now being used successfully for all except those physically unable to carry a tray. It does not take very long to train the patients to use the cafeterias. The first few days are rather disturbing for the dining room attendants, because some patients usually feel that the correct thing to do is to hurl a few plates. However, generally the patients become adjusted to the cafeteria and like it better than any other method of serving. Further advantages concern economy in that smaller servings are placed on the plates at the beginning of the meal and patients soon learn to take only those foods which they like and will eat. By using the cafeteria method the patient is more certain to receive warm food, and second helpings assure satisfaction to the more hungry.

In order to know how much food to prepare, the dietitian must standardize her servings. The dining room attendant is inclined to give entirely too large servings at the beginning of the meal, perhaps to save work in the passing of second helpings. If the food waste is to be reduced to a minimum it is absolutely necessary to insist that small servings be given at the beginning of the meal. The dietitians in the mental hospitals of Illinois have found it inadvisable to try to serve mental patients too many different foods at one meal, since this encourages waste.

The dietitian must carefully check her waste in order to keep food costs down. Not only must she weigh her edible and inedible waste, but she must know the foods on which there is the most waste and why. The reduction of waste is one of the most important factors in keeping food costs at a minimum.

Seven years ago there were only 5 trained dietitians in the state institutions of Illinois; today there are 32, and 25 of these are members of the American Dietetic Association. During the last 18 months a W. P. A. dietary project has been operating in a number of the state institutions. At the present time this project is operating in 11 institutions. A dietitian is employed to supervise each project, and she works under the direction of the dietitian in the institution. This project has been of great assistance to the dietary departments, making it possible to improve the service in many divisions because of the increased personnel. During the last year the Federal Government paid $126,984.82 in salaries to the workers on this W. P. A. dietary project in state institutions.

THE DIVISION OF THE HOSPITAL FOOD DOLLAR

MARTA BERG and MARJORIE DOYLE

Many points of interest in food service were brought to light in a comparative study of the food dollar as spent in each of the three units of the Massachusetts General Hospital. We took a six-month period in 1938 for study and divided the food dollar into the usual five groups: (1) meat, fish, and eggs; (2) milk, cheese, cream and ice cream; (3) fruits and vegetables; (4) fats, sugars, tea, coffee, and miscellaneous; and (5) breads and cereals. The results of the analysis are shown on the accompanying two graphs.

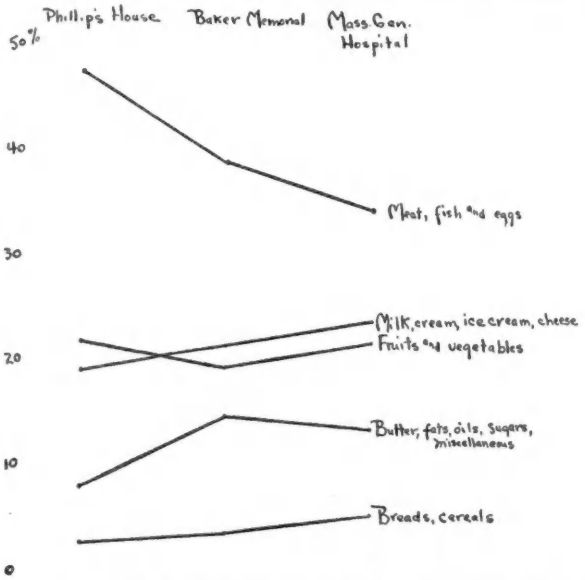
The range covered by these three units is wide, including an "exclusive" hospital (Phillips House), a very moderately priced one (Baker Memorial), and a charity hospital (Massachusetts General). It includes catering to the whims of people accustomed to the very best in foods without much regard to cost, and providing adequate nourishment at minimum cost to people who are very ill and whose habitual diets have often been below standard. The per capita costs are $1.20, .48, and .40 respectively. (*See* Graph 2.) A point to note is that the Baker Memorial per capita is much closer to that for the General Hospital than for Phillips House, although this is not apparent in Graph 1. While the expenditure for meat, for instance, is 47 per cent of the total raw food cost in Phillips House, 39 per cent of the total in the Baker Memorial, and 35 per cent of the total in the General Hospital, the actual cost of a day's meat for one person in Phillips House is 56 cents, in the Baker Memorial 19 cents, and in the the General Hospital 14 cents.

After the figures were put into graph form we considered each point in Graph 1 in relation to others, in the light of the actual menus made out and food served. We selected a representative set of menus from each kitchen for reference in drawing our conclusions from the point of view of food cost control, ignoring, for simplification, the nutritional significance that such an analysis might have.

The comparison of percentage costs in the different food groups naturally evolves around two considerations—that of quantity and quality. "Quantity" with us means the number of times in a given period a food is served; and quality, as it affects price.

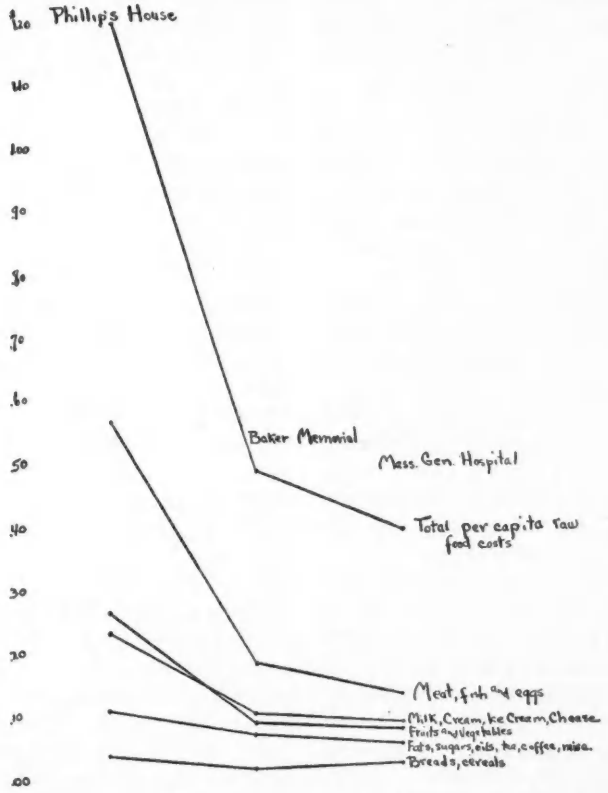
The percentages spent for group 1 (meat, fish and eggs) vary directly with the per capita costs in the three

units. In all three meat or fish is served at noon. Phillips House and Baker Memorial patients may order one meat dish every night and the General patients receive a meat or fish dish for supper two or three times a week. Bacon (three slices) is on the breakfast menu every day in Phillips House. There is considerable difference in the quality of meat served in each unit. Phillips House meats are of the best quality obtainable. Aged loins are used for roast beef and steaks, a serving of which may cost 75 cents or more. Only fresh fish such as salmon or halibut costing around 30 cents a pound is served. Broiled chicken, costing around 28 cents a serving, is frequently on the menu. In the Baker Memorial the meat, while less expensive, is of high quality. The patients may order cold sliced chicken, costing about 7 cents a serving, as they wish. Steaks are served only on special order. The bacon here is a cheaper brand than that served in Phillips House and a serving is two slices. In the General Hospital the less expensive cuts of meat are served—for example, not legs of lamb, but roast fores. Where Phillips House has 30-cent salmon, the General Hospital has whitefish at about 10 cents per pound, and fish is served twice a week as a main dinner dish. When chicken is served it appears as creamed chicken. The eggs used in Phillips House are a special grade costing about 5 cents a dozen more than the Baker eggs. The eggs for the General Hospital cost 2 or 3 cents a dozen less than the Baker eggs.



GRAPH 1. COMPARATIVE PERCENTAGE OF RAW FOOD COSTS IN THE THREE UNITS OF MASSACHUSETTS GENERAL HOSPITAL, JUNE TO NOVEMBER, 1938

Phillips House and Baker patients may have eggs for any meal. General patients are served eggs twice a week at breakfast and three or four times in two weeks at the evening meal. From the foregoing it can be seen that in this group there is a chance for tremendous variance in raw food cost which is indicated in the graph.



GRAPH 2. PER CAPITA COSTS, MASSACHUSETTS GENERAL HOSPITAL, JUNE TO NOVEMBER, 1938

With group 2 (milk, cream, ice cream, and cheese), the curve goes in the opposite direction from the per capita curve, but all three percentages are within 5 per cent of each other and all range around 20 per cent. Everyone in the three institutions may have as much milk as he wants, but in Phillips House the patients' milk is Grade A served in individual half-pint bottles costing 5 cents each. Baker patients get the same milk poured from quart bottles, at 10½ cents a quart; everyone else in the hospital gets milk at 9½ cents a quart. In the General, powdered milk is used for cocoa and in other cooking, costing the equivalent of about 18 or 19 cents a

gallon. The butter fat in the cream varies with the per capita cost in the 3 units. Phillips House gets 25 per cent cream (or 34 per cent if they ask for it); Baker patients, physicians and nurses receive 20 per cent cream; General patients, a mixture of 20 per cent cream and an equal quantity of milk; and the employees' cafeteria, a mixture of cream and canned milk.

Ice cream is offered twice a day to Phillips House and Baker Memorial patients, and twice a week to General patients and everyone else in the hospital. Phillips House ice cream, higher in butter fat, costs about 5 cents more a gallon than that served elsewhere. Whether to serve individually wrapped servings of ice cream or the initially less expensive bulk ice cream, depends upon considerations of time involved in service and supervision available to avoid waste, etc. In the employees' cafeteria, for instance, we serve brick ice cream, cut 8 servings to the quart, at a slightly higher first cost, to avoid the possible wastage in serving bulk ice cream.

Cheese ranges all the way from individual Roquefort to bulk American, or from $1.20 to $.20 a pound. Cheese is served to order in Phillips House but is rarely listed on the menu. In Baker and General it may be on the menu two or three times a week as part of a luncheon dish.

Though the costs of the foods in this second group vary with the per capita, the variance, proportionally, is not so great and the amount of these foods served is probably greater, the lower the per capita, so this curve goes in the opposite direction from the per capita curve.

Group 3 (fruits and vegetables) ranges around 20 per cent, with Baker lower than the other two. All are within a range of 3 per cent. Though only one vegetable and one fruit are on the menu for General patients each day, actually the average servings of fruits and vegetables are about the same here as in Baker since about half the General patients are on high vitamin diets as compared with Baker's one-tenth or thereabouts. Those on high vitamin diets get two vegetables at noon, two at night, and fruit every morning as well as nearly every night. The difference could also be a difference in waste in the two vegetable rooms, though no such fact was apparent from a superficial observation.

Servings of fruit are offered to Phillips House patients three times a day; Baker Memorial and the physicians twice a day; all nurses, about ten times a week; General patients, once a day; and employees' cafeteria, two or three times a week. Fresh fruit makes up about two-thirds of the total fruit served in Phillips House, and about one-half that served elsewhere. The canned fruit offered every night at Phillips House is a special, fancy pack in No. 2 and 2½ cans and the jams and jellies are a special grade, some of which is imported; No. 10 cans are used in all other units of the hospital. Dried prunes in a fancy 2-pound pack are served once a week in Phillips House; Baker and General, dried fruit from 25-pound boxes about twice a week.

A choice of vegetables is given at Phillips House each noon, with a fresh vegetable salad offered two or three times a week and hearts of lettuce each night. Baker Memorial patients may choose between two vegetables at noon, and may order one at night and have

hearts of lettuce every evening with vegetable salad about three times a week. The nurses usually receive a second vegetable for dinner about four times a week. General patients are given one vegetable a day, and a vegetable in the main dish at night about twice a week. The physicians and nurses get 2 vegetables a day, with vegetable salads two or three times a week. The only canned vegetables used in Phillips House are corn and asparagus tips. Besides these, only stewed tomatoes, Lima beans and some vegetables for salads and purées are used in Baker. The General kitchen uses many canned vegetables, beets, string beans, etc., for patients and help. Potatoes are not included in the above discussion. For the most part, the same grade is used throughout the hospital and they are offered once a day to everyone.

Group 4 (butter, fats, oils, sugars, tea, coffee, and miscellaneous items as pickles, spices, vinegar, cocoa, etc.) shows a range of 10 per cent, with Baker Memorial higher than the other two. Everyone may have all the butter he wishes. Phillips House butter is about 5 cents a pound higher than that used in the other two units and is moulded in pats with the letters P.H. imprinted. It takes one man two hours every day to cut the butter for the other units in the hospital. Phillips House coffee is twice as expensive as the coffee used elsewhere. Their tea is also more expensive. Phillips House patients are offered some sort of pickle or relish about five times a week, Baker patients once in two or three weeks, and the patients in General, never.

As for group 5 (cereals and breads), Phillips House breads are only slightly more expensive than the others; much more bread is eaten in General than in the other two hospitals, so the curve is opposite to the per capita curve.

Our conclusion is that, with a few minor exceptions, the Massachusetts General Hospital food cost percentages in the three units demonstrate the following theories generally held: As per capita cost goes up, the percentage of the food dollar spent for meat goes up markedly, the percentage spent for fruits and vegetables stays about the same (or goes up slightly), the percentage spent for milk, cream, ice cream, and cheese stays the same or goes down slightly, and the percentage spent for the other two groups goes down. We feel that a study of this kind is valuable to dietitians in evaluating their own food service, and to students in showing how the raw food cost of a menu may be influenced without detracting too much from its nutritive value or attractiveness.

THE FOODS OF PUERTO RICO[1]

VIOLA T. GLENN

When the West Indies were being colonized the fleets of Spain were the nation's boast. But these great ships, often luxuriously appointed, made no faster time across the Atlantic than did the caravels of Columbus. A trip from Spain to Hispaniola, now called Haiti, meant a voyage of weeks and months, depending on the will of the winds.

During those primitive days, before

[1] The author acknowledges the assistance of Rosa Marina Torres, professor of home economics, and Berta Cabanillas, assistant professor of home economics, both of the University of Puerto Rico, and that of the Park Avenue Market (New York), dealers in tropical produce, in supplying data for this paper.

ships were equipped with refrigeration or means of preserving food in cans, ships' stores were of necessity dried or brined and fresh produce was not available after a week or two at sea. Many of the ships sailed into West Indian harbors with tales of spoiled or depleted ships' stores, and all arrived with every man aboard thoroughly tired of ships' meals and hungry for garden fresh foods. They thankfully ate the strange tropical dishes offered by the natives, and sampled the tempting fruits that grew in abundance. The majority found the native foodstuffs appetizing, and the others learned to like them. They had to, or starve.

Thus the first settlers of Puerto Rico were compelled to "go native" in their food habits. The native Indians readily introduced their culinary art to the Spaniards, but stayed only long enough to effect the introduction. Then the dark hands of Africans stirred the cooking pots. The masters, however, were Spanish, and thus we find the cooking of Puerto Rico markedly Spanish, although admirably adapted to the tropics—a happy combination of the quick boiling and frying found in all tropical countries, and the cooking of Old Spain, including the long simmering of some of the favorite dishes.

The native produce of Puerto Rico should be of importance to all those who are doing food work today. Fast means of transportation, low rates, and the urge to travel, as well as the desire for new foods, are quickly introducing tropical foodstuffs into many kitchens of the States. The avocado, for instance, ten years ago was an exotic fruit, a sign of luxury when served north of the Rio Grande. Today the corner store sells avocados at moderate prices throughout the year. It can be predicted, after years of observation, that the following tropical foods will become as well known within a very short time: mango, *sapodilla*, *papaya*, fresh cocoanut, *plantain*, *chayote* and *calabaza*. We have observed their steady increase in popularity with a resulting gain in shipments and market spread.

The Puerto Rican dietary is as varied and abundant as the budget permits. Among the more interesting native foods are the following:

Plantain, or *plátano*, the large cooking banana, often ignored by mainlanders. It may be purchased in three stages of ripeness, jungly green, banana yellow flecked with brown, and dull black. It is not eaten raw. Green plantains are especially delicious when made into chips, like potato chips, and they are also sliced and tossed into the soup or stew pot. The yellow ones are just right for boiling, baking and making into *tostones*, and the black or ripe ones, which on peeling reveal a dainty pink fruit, are best for frying or sautéing. Puerto Ricans make many delicious dishes from plantains, the most famous of which are *pasteles* and *mofongo*.

Chayote, a little pear-shaped squash, is variously known as *chocho*, *christophine*, *mirliton* and one-seeded cucumber, and may be chalky white or pale green. The seed is an edible tidbit. The chayote is a versatile vegetable, and may be boiled, fried, made into fritters or stuffed with meat, shellfish or other stuffing and baked, or cubed and added to stews, soups and salads. By simmering it with sugar and spices, as with winter pears, it doubles as a fruit sauce or fruit dessert.

Calabaza, literally translated, means squash. There is a variety with a green rind mottled with white or yellow, the golden flesh approximately two inches thick and singularly free from fiber. It is dry, fine tasting and particularly suited to all purposes to which we utilize winter squash; that is, as a vegetable, a soup or a dessert.

Yuca, or cassava, is used plentifully. It may be boiled as a vegetable, made into fritters, added to soups and stews, or made into meal and cassava bread, which is much like Swedish health bread in texture.

Yautía, white or yellow, and known as *tannia*, *malanga*, etc., is another starchy vegetable frequently used boiled, added to soups and stews and as a base for pasteles.

Dasheen, known as *eddo* and *malango de chine*, is not very popular, although reputedly brought from Puerto Rico to the mainland.

Ñame is another starchy vegetable, a yam which may be imported from Puerto Rico or grown in the southern states, and is used as a vegetable and an ingredient in soups and stews.

Mango is in season in June and July. Only two varieties out of a possible thirty are generally available. These are the Hayden, golden in color with a brilliant red cheek when ripe, and a small yellow mango, variously known as peach, yellow and Bombay. Haydens are usually eaten raw and must be ripe or they will not be relished. The yellow mango is the one generally used for cooking. If to be cooked, it should be slightly green, like bananas. They are made into jellies, creams, pickles, chutneys, tarts, or stewed and added to ice creams, whips and other desserts. A fruit fly embargo bans their importation, therefore Florida produces the bulk of our mango supply.

Guava. Although Southerners are familiar with the guava, very little of it comes north in the fresh state. Excellent canned guavas, which to be at their best should be dark red and in heavy syrup, are readily obtained and are known as *cascos de guayaba*, if you purchase the imported. The jelly is imported in bricks, the home produced is marketed in glass. Guava cream or paste should be pinkish, not brown in color, to be at its best. It comes in bricks, often layered with jelly. Chilled guavas are served with cream or cottage chesse for dessert, or as salad. Paste and jelly may be served with cheese and crackers for dessert or sandwiches. All guava products are popular in Puerto Rico.

Papaya is a Puerto Rican favorite when made into a delicately spiced preserve. They call the fruit *lechoza* or *lechosa*. The unripe papaya is green in color; the ripe, yellow to golden, depending on variety. Ripe papayas may be served raw, like melon, as breakfast fruit, appetizer or dessert and made into salad. Many Americans like lemon or lime juice with fresh papaya. For cooking it must be slightly green, and is made into fruit sauce, dessert, puddings, pies, tarts and preserves. Puerto Rico is exporting canned lechoza and preserves.

Sapodilla. This is the name used in Florida, the largest source of supply, but the Spanish name is *níspero* or *níspera*. The fruit has a rough looking, russety skin with yellow pulp and black seeds. It must be ripe before used, due to chicle and tannin content. It

is very sweet and used raw as a "hand" fruit and in fruit cups and salads.

Among other fruits, Puerto Rico ships many carloads of green and ripe cocoanuts to the mainland each year. In many recipes freshly grated cocoanut may be substituted for the commercially packed as they do in the tropics. Puerto Ricans like to serve fruits cooked in rich syrup for desserts rather than in the raw state. They have many delicious fruit preparations, some of which are now being shipped in small amounts to the large Eastern cities. There are other tropical fruits found on the island, but at present they are not being exported.

From a nutritive standpoint the most important seasoning is the *achiote*, also known as *annotto* and *bija*. This dusky red, three-cornered seed is rated as one of the most important vegetable sources of vitamin A as yet known. The seeds are gently heated in lard until the lard has acquired a reddish-orange color. The seeds are then strained out and the "coloring" refrigerated for future use. It is added to soups, stews, sauces, gravies and other dishes. When added to rice it imparts a color frequently believed to be saffron by the uninitiated. *Culantro* and *aji* are also unusual seasonings used in soup, as well as small green olives, capers, canned pimientos and hot pepper sauce.

Like all tropical countries, Puerto Rico has many delicious and cooling fruit drinks. *Pīna* is prepared from the freshly extracted juice of tree-ripened pineapples, mixed with water, ice and sugar. It does not taste like commercially prepared pineapple juice. There are two types of cocoanut drinks, the *agua de coco* or cocoanut water and the *leche de coco* or cocoanut milk. First the water-green cocoanuts are chilled, a straw inserted through a bored hole and the water drunk. Then the cocoanut is opened so that the cool jelly-like pulp may be eaten. Cocoanut milk is prepared by grinding ripe cocoanut meat, adding water, straining, sweetening and chilling.

EDUCATION ABSTRACTS

Beginning with this issue, abstracts pertinent to the field of education, both general and specific, will be included from time to time under the Current Literature section. The first of such, appearing in this issue, covers the period from January through August 1939. These abstracts are the responsibility of Florence E. Bateson, 2030 East 86th St., Cleveland, Ohio, and any suggestions as to the improvement of the content of this material should be sent to Miss Bateson or the editor of this JOURNAL.

Miss Bateson will also prepare short paragraphs to be used as "fillers" at the end of leading articles and elsewhere. Here, too, the assistance of members in supplying suitable material or suggestions will be gratefully received.

BOOK REVIEWS

Standard Chemical and Technical Dictionary. By H. Bennett. New York: The Chemical Publishing Company, Inc., 1939, pp. 638. Price $10.00.

Every college attempting to equip the future dietitian and nutritionist, and every postgraduate training school for dietitians should have this book as a convenient reference manual. For the writer, technician and scientist, it is equally indispensable.

The current advances in chemistry and the allied sciences have introduced innumerable technical expressions—Monel, hydrogenation, genes, and those concerning the bewildering maze of the hormones and vitamins. Each term is defined concisely with a complete listing of synonyms and cross-references. The book offers quick access to the "language within a language" and in a form which will assist those without a technical education, and yet be most useful to the technician and chemist.

Especially helpful, in addition, are the general rules for the pronunciation of chemical terms, as approved by the American Chemical Society, and a list of key words with phonetic spelling and diacritical marks. Chapters include the Nomenclature of Organic Chemistry, Prefix Names of Organic Radicals (of particular help to those unfamiliar with the nomenclature of organic chemistry), standard abbreviations and contractions, and symbols (including the Greek alphabet and symbols, and mathematical, apothecary and miscellaneous symbols).

All dietitians, whether in the field of administration, diet therapy, teaching or research, will welcome this book, for it covers industrial products as well as pure chemicals and trade names. In fact, there is no field of recent scientific and technical endeavor not included among the 25,000 definitions. The grouping of matter of a similar nature and a standard system of alphabetizing are further assets to the book's value.

The author, a fellow of the American Institute of Chemists, American Association for the Advancement of Science, and member of the American Chemical Society and Society of Chemical Industry, among other scientific bodies, and editor-in-chief of *The Chemical Formulary*, is well equipped for the painstaking work that has gone into this monumental task.

The Participation of Medical Social Workers in the Teaching of Medical Students. By Harriett M. Bartlett. Chicago: George Banta Publishing Company, 1939, pp. 68. Price $1.50, on application to The American Association of Medical Social Workers, Inc., 844 Rush St., Chicago.

In the foreword to this book, attention is called to the increasing recognition by physicians of "the significance of the social factors bearing on the cause and treatment of illness," for the patient's response to his illness and to his medical care is intimately bound up with his feelings about his condition and his way of living. Modern therapy recognizes the needs of the whole man and this book demonstrates the significant medical-social interrelationships in clinical instruction. In the introduction, Ida M. Cannon calls attention to Dr. Osler's insistence on teaching the medical student the social as well as the medical aspects of treatment, and to the work of Dr. Charles P. Emerson, who initiated an organized effort to awaken medical students to the social problems that complicate the lives of people in lower economic levels. Later, through the assistance of such men as Drs. David L. Edsall, George R. Minot and others, the program for teaching the social aspects of medicine has been markedly furthered.

This book attempts to present the various methods and content of teaching which will serve to guide medical social workers in undertaking their responsibilities. For several years, medical social workers have been requested to assist in teaching medical students the social aspects of illness. Dietitians probably receive corresponding requests for such collaboration. This book is based on experience in a number of the teaching centers. It discusses the importance of high standards in the department before such teaching is undertaken, practical methods of teaching, and the share of responsibility which physicians, medical students and social workers may well take in the presentation and analysis of case material. Several illustrations are given of actual presentations.

Dietitians who are helping medical social workers to teach student dietitians the social factors which have helped to cause the patient's illness or are influencing his response to treatment, such as diet therapy, will find this book

of interest. There is a bibliography of articles written chiefly by physicians on the social aspects of medicine and the incorporation of their study into the curriculum.

The World Wide Cook Book. By Pearl V. Metzelthin. Decorations by Tony Sarg. New York: Julian Messner, Inc., 1939, pp. 681. Price $3.00.

This is a unique cook book. There have been other attempts to assemble the distinctive culinary recipes of many lands, but we do not recall anything sufficiently ambitious as to include in its repertory over 500 recipes from 72 countries. The author has traveled extensively and kept house in eleven countries, and in order to establish the authenticity and accuracy of the published material, assistance was obtained from representative persons in each of the several countries. The recipes had then to be translated into terms applicable to American cookery measurements, and the final recipe tested and adapted to American facilities while still retaining its national character.

Each chapter leads off with entertaining comments on the foods and food customs of the country, followed by typical menus and recipes. The British Isles, so sorely neglected in most international culinary compilations, leads off, and from there we go on a merry trip around the world, or rather the world that was, for in the comparatively short space of time since this book was written several of the countries represented have been or are being obliterated as nations.

From the Finnish Lapland to the Straits Settlements and the Lesser Antilles, we are able to gain a gourmet's eye view of the world's cookery. That the contents are well supported by a documentary study is evidenced by the extensive and unusual bibliography. For good measure, a list of shops is included in which the more unfamiliar ingredients may be obtained.

Foods and Meal Preparation. A Laboratory Manual for College Students. By Henrietta C. Fleck, School of Home Economics, University of Delaware. Ann Arbor, Michigan: Edwards Brothers, Inc. 1939. Price $2.25.

In Miss Fleck's own words this manual attempts to answer the following questions as an aid in formulating objectives for the average college student. "Which personal qualities are important? How may time, materials and equipment be managed to the best advantage? What are the aesthetic aspects of this subject? How may high food standards be developed? By what means may progress be checked? What are the best sources of information? What are the outstanding problems in foods and meal preparation in my family and in my community? How may I aid in the solution of these problems? How will this course help me in the future either professionally or as a homemaker? How will this course help me to become a well adjusted individual?"

The manual consists of 265 pages with 54 problems, a performance sheet and a bibliography. It is set up for each problem with a series of well formulated questions, references to cover the questions and a group of practical experiences to be worked out in the kitchen.

The problems cover the subjects of fruits, cereals, dairy products, eggs, batters and flour mixtures, beverages, meal planning, table service, vegetables, sauces, soups, desserts, candies, salads, deep fat frying, meat, fish, poultry, gelatin, frozen mixtures, outdoor cookery, marketing, table accessories, various forms of table service, food customs, food preservation, experimental cookery and demonstration.

The wide scope of subject matter, the careful arrangement of questions and the practical applications make the manual a real contribution to the college textbook library. Even if not used in full it offers excellent suggestions for the college cookery course.—EMMA L. FEENEY, *Pratt Institute, Brooklyn, N. Y.*

The Care of a Small Rat Colony. By Rolland J. Main, Department of Physiology and Pharmacology, Medical College of Virginia, Richmond. St. Louis: The C. V. Mosby Company, 1939, pp. 101. Price $2.00.

Since the need for an elementary book on this subject has not been met by those more experienced in this field, it remained for one of less experience, as the author himself remarks, to give others the benefit of his trials and costly errors. He is frankly apologetic regarding his offering and it is obvious that his observations are limited to a few laboratories in one locality. He calls attention, however, to the numerous details which are necessary considerations in the establishment of a successful colony, but his specific problems of housing, room arrangement and

temperature control might not apply to laboratories situated in other parts of the country. The tendency to offer arbitrary directions for certain procedures rather than a choice of several accepted methods may raise unnecessary doubts among inexperienced workers as to the validity of methods already in use which do not happen to conform to those described here. One must accept this book as an exposition of how one laboratory has been successfully conducted rather than as a guide-book of laboratory management. The conspicuous use of the first person pronoun throughout the book would also lead to this interpretation, but an impersonal treatment of the subject would have been more pleasing to the reader. The clever pen and ink sketches at the end of each chapter and the brief history of his own laboratory add a welcome touch of humor and interest.

The author offers valuable assistance in listing sources of laboratory supplies, specifications and costs of equipment. He emphasizes the need of routine procedures and strict attention to sanitation, lack of which may be disastrous to an animal colony. His directions for breeding and rearing of young and the difficulties likely to be encountered are worthy of careful consideration if one is interested in a constant and adequate supply of healthy young animals. That some of the directions seem a bit amateurish could be excused if the book were designed to meet student needs. Anyone reorganizing or starting a new laboratory would do well to consult this publication for suggestions.—HELEN S. MITCHELL, PH.D., *Massachusetts State College, Amherst.*

Heinz Recipe Book. Home Economics Department, H. J. Heinz Company. Pittsburgh, 1939, pp. 212. Price 50 cents.

This latest addition to the Heinz publications was compiled by the Home Economics Department, of which Frances Peck is the director, after a long period devoted to research and originating and testing recipes and menus.

Attractively bound in red and beautifully illustrated in color, the book is filled with helpful suggestions for menu planning, interesting accompaniments to popular dishes and photographs of the procedures in preparing certain dishes. The book, therefore, should be especially helpful to the novice, while the attractive illustrations, particularly of salads, should appeal to even the most experienced.

Pierre's 60 Profitable Sandwiches. By Pierre J. Berard. Stamford, Conn., The Dahls, 1939, pp. 46. Price 50 cents.

This little book covers sandwich making in a nutshell and includes a sandwich profits checking chart.

365 High Profit Luncheon Menus. By B. L. Griem. Stamford, Conn., The Dahls, 1939, pp. 48. Price 50 cents.

Mrs. Griem has assembled interesting and appropriate menus for every month and every day of the year, the greater proportion of which include a meat or fish as the main dish. The combinations are generally appetizing in perspective but would be more appropriate for consideration in connection with fairly generous food budgets.

CURRENT LITERATURE

American Journal of Digestive Diseases

Vol. 6, November 1939

*The effects of vitamin deficiency on the gastro-intestinal tract. D. W. Wilbur.—p. 610.

*The clinical value of quantitative vitamin determinations. T. T. Mackie and W. H. Eddy.—p. 617.

Clinical observations on the possible relationship of digestive tract disease to a type of osteoporosis. C. L. Brown, S. R. Vogel and R. P. Meader.—p. 628.

*The rôle of the circulation in the production of peptic ulcer. R. S. Boles, H. E. Riggs and J. O. Griffiths.—p. 632.

EFFECTS OF VITAMIN DEFICIENCY ON GASTRO-INTESTINAL TRACT. Vitamin deficiency states may be manifested by a variety of gastro-intestinal symptoms and abnormalities, including anorexia and diarrhea, such abnormalities in function as achlorhydria and alteration in the motor activity and absorption function of the intestine, and in such lesions as stomatitis, glossitis, proctitis and atrophy and inflammation of the gastric and intestinal mucosa. Chemical and biologic tests which will measure abnormalities in the chemical composition of body fluids or slightly altered function of the tissues induced by states of vitamin deficiency are in the process of development.

CLINICAL VALUE OF QUANTITATIVE VITAMIN DETERMINATIONS. Accurate methods are now available for blood vitamin C and K determinations. Studies of a group of apparently healthy normal adults have been utilized to plot zones of apparent normality for vitamins A, C, and carotene. Findings indicate that a significant proportion of healthy individuals on average diets are well below the optimal level of blood vitamin C. The average vitamin A and C values in a consecutive series of peptic ulcer cases are below the averages of the normal group, and the vitamin C level is frequently very low. Similar deficiencies are not infrequent in chronic ulcerative colitis, and in the general ward population. Repeated vitamin determinations have proved to be of inestimable value in the management of individual patients. Cod liver oil is an effective method of raising the blood vitamin A level.

RÔLE OF CIRCULATION IN PRODUCTION OF ULCER. Focal gastric lesions are the result of chronic circulatory insufficiency to all the structures of the gastric wall. Such circulatory deficiency is part of a generalized insufficiency intensified by intrinsic vascular peculiarities of the stomach, of an anatomical or vasomotor nature.

American Journal of Diseases of Children

Vol. 58, November 1939

*Assimilation of protein by young children with the nephrotic syndrome. II. Effect of dietary fat and carbohydrate on nitrogen balance. L. E. Farr.—p. 935.

*Assimilation of protein by young children with the nephrotic syndrome. III. Effect of nephrotic crises on assimilation of nitrogen. L. E. Farr.—p. 939.

*Factors affecting retention and calcium in period of growth. I. Effect of thyroid on nitrogen retention. J. A. Johnston and J. W. Maroney.—p. 965.

*Obesity in childhood. II. Basal metabolism and serum cholesterol of obese children. H. Bruch.—p. 1001.

EFFECT OF DIETARY FAT AND CARBOHYDRATE ON NITROGEN BALANCE. Two children with the nephrotic syndrome were given weighed isocaloric diets containing less than 1 gm. of sodium chloride per day and 3 gm. of protein per kgm. of body weight per day. During the first test period the fat in the diet was reduced to 1 gm. per kgm. and the carbohydrate increased to keep caloric intake constant. The diet was then changed to include, successively, 2, 3, 4, 5 and 2 gm. of fat per kgm. of body weight with reciprocal changes in carbohydrate content to maintain the same total number of calories; 5 gm. brewer's yeast and 2 capsules of halibut liver oil were given daily. Nitrogen balances did not show any effect of the interchange of fat and carbohydrate.

EFFECT OF NEPHROTIC CRISES ON ASSIMILATION OF NITROGEN. Nitrogen balances of 2 young children with the nephrotic syndrome on a fixed diet showed marked spontaneous changes which preceded clinical evidence of changes in the severity of the syndrome. Mild infections of the upper respiratory tract tend to produce a negative nitrogen balance. This is caused by failure to assimilate dietary protein and by increase in proteinuria.

EFFECT OF THYROID ON NITROGEN METABOLISM. In the cretin, administration of thyroid is accompanied by increase in nitrogen balance after an initial negative phase. In 2 normal children,

an increase in nitrogen balance was induced with an amount of thyroid small enough to produce but a slight increase in metabolic rate. The effect of thyroid in the period of growth is essentially anabolic so long as the quantity administered does not stimulate the metabolism beyond normal.

BASAL METABOLISM AND SERUM CHOLESTEROL OF OBESE CHILDREN. Determinations of basal metabolism for 72 obese children and serum cholesterol determinations for 89 are reported. The total basal metabolism of obese children is higher than that of normal children of comparable height and age. No relation between serum cholesterol concentration and basal metabolic rate is revealed. Thyroid medication and its interruption fails to influence serum cholesterol concentration and rate of loss of weight.

American Journal of Physiology

Vol. 127, November 1939

*The glucose and lactic acid exchanges during hypoglycemia. H. E. Himwich, J. F. Fazekas and S. Nesin.—p. 685.

Boron in animal nutrition. E. Hove, C. A. Elvehjem and E. B. Hart.—p. 689.

HYPOGLYCEMIA. During hypoglycemia the liver continually adds glucose to the blood. This glucose is removed by muscle and intestine except when the concentration of fermentable glucose becomes negligible. The lactic acid exchanges of the various organs were not significant.

American Journal of Public Health

Vol. 29, November 1939

*Types of tubercle in lesions of garbage-fed swine. W. H. Feldman.—p. 1231.

*Methods of poultry evisceration and packing and their relation to health. C. E. Edmunds.—p. 1239.

*Typhoid fever and vegetable juices (carrot). J. C. Geiger.—p. 1244.

*Outbreak of staphylococcus milk poisoning in pasteurized milk. J. F. Hackler.—p. 1247.

TUBERCLE BACILLI IN SWINE. The feeding of garbage to swine is a fairly common practice. The susceptibility of the hog to each of the 3 types of the tubercle bacillus makes the incidence of tuberculosis in swine a fairly satisfactory index as to the amount of bovine, human, and avian tuberculosis in a given community. Data indicate that the human tubercle bacillus is capable of infecting swine. The infection is in most instances introduced into the body by way of the alimentary tract. Garbage should not be fed to swine in an uncooked state.

POULTRY EVISCERATION AND PACKING. The housewife interested in promoting the health and well-being of her family should insist that canned or eviscerated poultry which she buys show identification of having been government inspected. Recent methods of poultry evisceration and their significance to health are given.

TYPHOID FEVER IN VEGETABLE JUICES. Pertinent facts illustrate the necessity for frequent and careful supervision by health authorities over food establishments preparing and serving foods of any character, but particularly unheated, or partially heated, extracts and juices from vegetables. Two cases of typhoid fever resulted from a failure to pasteurize carrot juice.

STAPHYLOCOCCUS IN MILK. "Potentially toxic staphylococci" were isolated from samples of milk causing illness and upon which the phosphatase test revealed adequate pasteurization; therefore contamination occurred after pasteurization. This presumably occurred during the process of bottling and capping, which were done by hand.

Annals of Internal Medicine

Vol. 13, November 1939

*Vitamins in theory and practice. H. B. Lewis.—p. 749.

VITAMINS. The conception of the vitamins has undergone material change since the term was introduced in 1912. In the future vitamins may be termed chemical regulators of exogenous origin, in contrast to the hormones, chemical regulators of endogenous origin. The isolation of the pure vitamin has been achieved in several instances. The story of the development of the knowledge of ascorbic acid is outlined. Other vitamins could be similarly outlined. There is grave danger that enthusiasm over vitamins may cause neglect of the many other substances essential for normal nutrition.

Archives of Internal Medicine

Vol. 64, November 1939

*Optimum time for administration of protamine zinc insulin. M. F. Mark.—p. 897.

*Deleterious effects of experimental protamine insulin shock. J. W. Sherrill and E. M. MacKay.—p. 907.

PROTAMINE ZINC INSULIN. A study of the effect on the blood sugar curve resulting from alteration in the time of administration of protamine zinc insulin was made in 6 cases of diabetes. There was no appreciable effect on the character of the blood sugar curve resulting from a change in the time of injection of protamine. Variations in blood sugar levels may occur from day to day even when the patient remains on the same plan of therapy. The single dose of protamine may be given at the time most convenient for the patient.

PROTAMINE INSULIN SHOCK. Hypoglycemia is known to affect metabolism of the brain in an adverse manner and to give rise to degenerative changes. Prolonged hypoglycemia in rats and dogs led to permanent functional damage to the brain. The administration of insulin should be carefully controlled.

Archives of Pediatrics

Vol. 56, November 1939

*Nutrition study of camp children. S. W. Wynne.—p. 699.
*Lead intoxication in children. A. Levinson and M. Zeldes.—p. 738.

NUTRITION STUDY OF CAMP CHILDREN. Fifty undernourished children were studied before and after 27 days at camp. Group A received with each meal 7 oz. whole milk containing 1 oz. malted food powder. Group B received 5 oz. whole milk with no additions. The average gain in weight was 2.5 lb. in Group A and 1.9 lb. in Group B. Hemoglobin and red cell count increased 28% and 16% respectively in the two groups. The vitamin-mineral fortification to the regular diet was undoubtedly of value.

LEAD INTOXICATION. Twenty-six cases of lead intoxication varied in age from 9 months to 14 years. The symptoms were neurologic and gastro-intestinal with a predominance of the neurologic manifestation, particularly convulsions. Large doses of acid sodium phosphates and vitamin C should be given until all symptoms have subsided. A campaign against burning battery casings for heating purposes would prevent many cases of lead intoxication in children.

Canadian Medical Association Journal

Vol. 41, November 1939

*The effects of tea drinking. G. W. Halpenny and H. E. MacDermot.—p. 449.

TEA DRINKING. The two chief constituents of tea are caffeine and tannin. In addition there are minute quantities of minerals and volatile oils such as valerianic acid, phenol and pyridin. They play an important part in the fragrance of a cup of tea, but their physical effects in tea drinking are negligible. Good tea, brewed for 5 minutes, produces mild and pleasant stimulation. Strong tea, brewed 10 minutes, may produce some mild discomfort, but the addition of milk nullifies this. The effects of tea on gastric acidity and peptic activity are slight and variable. Tea does not increase acidity nor alter the basal metabolic rate.

Hygeia

Vol. 17, November 1939

*The story of food. E. F. Kohman.—p. 981.
*How to give cod liver oil. I. J. Wolman.—p. 1000.
*Table syrups.—p. 1009.
*Temptation fruit. H. M. Fyler.—p. 1016.

STORY OF FOOD. Inadequate nutrition plays an important part in infant mortality and can account for the excessive proportion of underdeveloped school children and adolescents and the poor health and small output of a large number of workers. If an adequate supply of the right kind of foods were available, pellagra would completely vanish. The practical answer to successful nutrition is a plentiful supply of proper foods and educational measures to create correct eating habits.

COD LIVER OIL. To give cod liver oil, place child in a sitting position and feed the oil slowly, pressing the tongue tip with the spoon. Be gentle, slow and cheerful. Oil is often given just before the bath when the baby is completely undressed. Under no circumstances should the child be compelled to swallow oil by the use of brute force.

TABLE SYRUPS. Syrups are derived from corn, sugar cane, sorghum cane and maple sap. There are federal definitions and standards for each kind of syrup on the market. Syrups contain dextrose which does not crystallize as readily as beet or cane sugar. When syrup is added to a candy recipe, it will prevent "sugaring." A complete list of accepted syrups is given.

APPLES. Apples are high in nutritive values and deserve an important place in the American diet.

One or more varieties are available during every month of the year. Most varieties are good sources of vitamin C. Apples are high in malic acid which helps build up the alkaline reserves of the body. Recipes for apple desserts are included.

Journal of Biological Chemistry

Vol. 131, November 1939

*The influence of diet on the endogenous production of citric acid. A. H. Smith and C. E. Meyer.—p. 45.
*The effect of choline on the ability of homocystine to replace methionine in the diet. V. Du Vigneaud, J. P. Chandler, A. W. Moyer and D. M. Keppel.—p. 57.
*The effect of a nicotinic acid deficiency upon the coenzyme I content of animal tissues. A. E. Axelrod, R. J. Madden and C. A. Elvehjem.—p. 85.
*The metabolism of carbohydrate and protein during prolonged fasting. W. H. Chambers, J. P. Chandler and S. B. Barker.—p. 95.
Vitamin C studies in the rat. The effect of copper and various organic substances. J. L. Svirbely.—p. 233.
*Effect of age and fasting on glycogen content of liver and muscle of rats and puppies. W. Heymann and J. L. Modic.—p. 297.

ENDOGENOUS CITRIC ACID. Balance studies show that the white rat has the ability to synthesize citric acid. Adequate diets containing a major portion of the energy either in the form of carbohydrate or fat are more conducive to the formation of endogenous citric acid than are those composed chiefly of protein.

CHOLINE AND HOMOCYSTINE. The administration of choline enables the rat to utilize homocystine for growth purposes in lieu of methionine.

NICOTINIC ACID. A nicotinic acid deficiency in the dog and pig results in a lowered coenzyme I content of the liver and muscle but no effect is noted upon the brain, kidney cortex, and blood. The coenzyme I content of rat tissues cannot be increased by the administration of excessive amounts of nicotinic acid.

METABOLISM DURING PROLONGED FASTING. During prolonged fasting, as the loss in body weight increases from 40 to 50%, dogs may exhibit either a marked rise or a very slight change in protein metabolism. After fat ingestion the metabolism resembles that of the intermediate fasting period. Ingested fat exerts a marked nitrogen-sparing effect, which is found only in the animal with depleted fat stores.

LIVER AND MUSCLE GLYCOGEN. Rats of 3 age groups (8 to 11 days, 10 to 12 weeks, and 2 to 3 years) were fasted for 2 days. In none of these animals did hypoglycemia develop. This result differs from that observed in studies made on human infants and children. The liver glycogen value for rats 8 to 11 days old is one-third that for rats in the two older groups. During the first 6 weeks of postnatal life this value increases steadily. The pronounced disposition to ketosis at certain ages can in no way be explained by the age-conditioned differences in liver glycogen values.

Journal of Clinical Investigation

Vol. 18, November 1939

*The vitamin requirement of man. Estimated after prolonged studies of the plasma concentration and daily excretion of vitamin C in 3 adults on controlled diets. E. P. Ralli, G. J. Friedman and S. Sherry.—p. 705.
*Changes in the glucose tolerance of obese subjects after weight reduction. R. S. Hubbard and E. C. Beck.—p. 783.

VITAMIN C REQUIREMENT. The daily excretion of vitamin C and the plasma concentration of the vitamin were determined on 3 male adults kept on control diets and fed varying amounts of vitamin C in the form of ascorbic acid. When 100 mg. of vitamin C was fed daily, the 24-hour excretion of vitamin C did not exceed an average of 13 mg. When more was fed, there was a sharp rise in the urinary excretion. A plasma concentration of 0.4 mg. % was obtained when 50 mg. of vitamin C was given daily. This is considered the lower limit of normal. As a plasma concentration of 1.0 mg. % can only be obtained and maintained on a daily intake of at least 100 mg. of vitamin C, this is considered the optimum daily intake.

GLUCOSE TOLERANCE OF OBESE SUBJECTS. Thirty-four of 39 obese subjects showed abnormal glucose tolerance tests but the degree of abnormality was not marked. After weight reduction, 90% of the patients showed some improvement in the test and only 23% showed any abnormality. The improvement in tolerance appeared to be due to the weight reduction rather than directly to the diet, for the change in the curve persisted when the amount of carbohydrate was increased and it paralleled roughly the changes in weight.

Journal of Nutrition

Vol. 18, November 1939

*The synthesis of fat from protein by the albino rat. R. Hoagland and G. G. Snider.—p. 435.
*The influence of a carcinogenic compound on the hepatic storage of vitamins. A. Goerner and M. M. Goerner. —p. 441.
*The minimum vitamin A requirements of normal adults. I. The utilization of carotene as affected by certain dietary factors and variations in light exposure. L. E. Booher and E. C. Callison.—p. 459.
*A comparison of cereal and non-cereal diets in the production of rickets. J. H. Jones.—p. 507.
*The distribution of riboflavin in meat and meat products. O. Mickelsen, H. A. Waisman and C. A. Elvehjem.—p. 517.

SYNTHESIS OF FAT FROM PROTEIN. Young male albino rats were fed a diet consisting chiefly of fat and carbohydrate free casein. Although showing symptoms of linoleic acid deficiency, each rat fed the test diet for 60 days was found to contain a significantly larger quantity of fatty acid than had been present in its litter mate at the beginning of the experiment. The increases in fatty acid ranged from 38 to 358%, with an average of 257%. The results of these experiments show that the albino rat can synthesize fat from protein.

PRODUCTION OF MALIGNANT TUMORS. Intraperitoneal injections of a carcinogenic compound in rats and rabbits decreased the hepatic storage of vitamin A but not that of vitamins C or D. The inhibition of growth was paralleled by the decrease in hepatic vitamin A. No effect on the calcification of osseous tissues was observed.

UTILIZATION OF CAROTENE BY ADULTS. The utilization of the vitamin A value of cooked peas and cooked spinach was superior to that of crystalline carotene in cottonseed oil when comparing the minimum daily intakes of carotene which will just support normal dark adaptation in adults. The cooked peas were superior to the cooked spinach. Enrichment of the diet with excess thiamin, riboflavin or fat did not increase utilization of the carotene. A marked increase or decrease in exposure of the eyes of a normal adult to ordinary light sources probably does not alter requirements for vitamin A.

CEREALS AND RICKETS. Rolled oats, wheat, yellow corn, dextrinized cornstarch and sucrose were fed to rats as supplements to a purified basal ration. With the calcium content of the diet high (3% calcium carbonate) and no phosphorus added, rolled oats and wheat definitely produced more calcification than did corn or either of the non-cereal rations. When calcium carbonate was reduced to 1%, calcification on all of the cereal diets was considerably increased. There was no apparent increase associated with the dextrin or sucrose diets. Quite similar results were obtained when the calcium was omitted entirely. When phosphorus was added to the low-calcium diets, there was no detectable difference in the calcification produced on any of the diets. No evidence was obtained in support of the view that cereal grains contain a specific anti-calcifying factor.

RIBOFLAVIN CONTENT OF MEATS. A table of the riboflavin content of meats shows liver and kidney of pork, beef, lamb and veal to be uniformly higher than other organs and muscular tissues lower than glandular tissues. There was no loss of riboflavin by the ordinary household method of stewing. The samples roasted or fried showed appreciable losses varying from 30 to 60%. The human requirement for riboflavin lies between 1–2 mg. per day.

Journal of the American Medical Association

Vol. 113, November 4, 1939

*Riboflavin deficiency. V. P. Sydenstricker, L. E. Geeslin, C. M. Templeton and J. W. Weaver.—p. 1697.

Vol. 113, November 11, 1939

*The prevention of carotene absorption by liquid petrolatum. A. C. Curtis and R. S. Ballmer.—p. 1785.
*A clinical study of acne in university students. F. W. Lynch.—p. 1792.
*Contact dermatitis due to mango. S. J. Zakon.—p. 1808.

Vol. 113, November 18, 1939

*The protection of children from tuberculous adults. F. Hall.—p. 1873.
*Summary of some clinical studies on vitamin K. E. Tage-Hansen.—p. 1875.
Postscarlatinal nephritis. Editorial.—p. 1883.
*Testimonials of the departed for Valentine's Meat Juice. —p. 1884.

Vol. 113, November 25, 1939

Contact dermatitis from opium derivatives. J. W. Jordan and E. D. Osborne.—p. 1955.

RIBOFLAVIN DEFICIENCY. Six patients with lesions due to a riboflavin deficiency were observed. Patient 2 was cured of cheilitis as well as of pellagrous lesions while under treatment with nicotinic acid and an ample diet. Adequate food intake containing ample amounts of

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WHILE milk is a prime source of calcium, its dietary advantages can be even further increased by the addition of citrus juices to the diet.

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riboflavin explains her recovery from cheilitis and conjunctivitis. Three other patients showed much improvement of cheilitis and fissures in the corners of the mouth under riboflavin therapy. Response to riboflavin was relatively slow, and in the absence of an adequate diet, nicotinic acid given concurrently had no effect.

CAROTENE ABSORPTION. Solutions of liquid petrolatum, agar, water and emulsified liquid petrolatum taken in amounts of 20 cc. three times a day before meals, 20 cc. twice a day before morning and evening meals or even liquid petrolatum saturated with carotene at room temperature, interfered with the transportation of carotene across the epithelium of the intestine. In doses of 30 cc. nightly, results suggested that liquid petrolatum interferes with the organism's ability to absorb carotene from the ingested food.

ACNE. There was no clinical evidence of an etiologic relationship between acne and endocrine imbalance. There appears to be a relationship to abnormal thyroid function, but this is only demonstrable by changes in the basal metabolic rate. Seven cases of acne were associated with menstrual irregularity.

CONTACT DERMATITIS DUE TO MANGO. An acute vesicular or bullous dermatitis and marked edema about the mouth may be caused by eating mango fruit. With the increasing use of this fruit in the daily diet, the mango should be seriously considered as an etiologic factor in acute dermatitis of the face.

PROTECTION OF CHILDREN FROM TUBERCULOSIS. Tuberculosis in children is acquired almost exclusively from contact with infected adults in the home and in school. School teachers, servants, nurses, parents, relatives and even pediatricians should be examined at intervals.

VITAMIN K. Two rapidly acting forms of application of vitamin K are now available: intravenous injection and ingestion together with bile. The first is most effective. The intramuscular injection of vitamin solutions is remarkable for the long duration of the effect.

VALENTINE'S MEAT JUICE. Fallacious claims that Valentine's Meat Juice is highly nutritious and valuable in the treatment of pneumonia, diphtheria and typhoid are no longer made. Of the American physicians whose testimonials were given, all but one have been dead for several years.

Scientific Monthly

Vol. 49, November 1939

*Baking technology and national nutrition. J. A. Tobey. —p. 464.

BAKING TECHNOLOGY. In addition to wheat flour, the modern baker of white bread also includes milk solids, pure yeast of uniform quality, some kind of shortening or fat, salt, sugar in the form of sucrose or dextrose, malt or malt extract and water. Calcium salts may be added where water supplies are too soft. Only about 2% of all wheat flour now consumed in this country is of the whole wheat variety. Good bread is the foundation of every well balanced daily diet. Modern bread is superior to that of the past. The bread of American bakers is now the best in the world.

EDUCATION

Educational Record

Vol. 20, June 1939

*The council and the individual. H. S. Hawkes.—p. 395.

COUNCIL AND THE INDIVIDUAL. "To stimulate by studies, by activities, and by service the knowledge of and the training of the individual" has been the rôle of the American Council on Education from its beginning. While this concept of education began to permeate the primary schools nearly 100 years ago, it is a comparatively new point of view in higher education, having been widely accepted by the liberal arts colleges only within the last 20 years or so. Consideration of the individual in education is a fundamental point of view and it is encouraging to think that within another decade or two it may begin to find its place, likewise, in the graduate and professional schools.

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Journal of the American Association of University Women

Vol. 32, June 1939

*Accrediting conference of the American Council on Education. J. C. Clark.—p. 240.

ACCREDITING CONFERENCE. Because of the many agencies engaged in the accrediting of institutions of higher education and the resulting dissatisfaction on the part of some, and the complexity of the common problem to so many professional agencies, a conference was held in April 1939. Representatives of college and university accrediting agencies and about 15 professions participated. The three different types of accrediting agencies that exist at present are: (1) those representing professional fields regulated by licensing laws, such as medicine, nursing, law, dentistry, pharmacy, teaching, and engineering; (2) those representing professions not regulated by law, such as forestry, architecture, music, social service, library science, and home economics; and (3) those interested in the field of education as a whole. Of these the Association of American Universities and the North Central Association of Colleges and Secondary Schools are the most widely recognized.

Journal of the American Medical Association

Vol. 113, August 26, 1939

*Medical education in the United States and Canada. Thirty-ninth annual presentation of data by the Council on Medical Education and Hospitals of the American Medical Association.—p. 757.

MEDICAL EDUCATION. Includes statistical data, discussion of medical schools, medical education in general, hospitals (internships and residencies), graduate medical education, and "Essentials of an Acceptable Medical School" (Revised to June 1938), "Essentials of a Hospital Approved for Training Interns" (Revised Jan. 1939), and "Essentials of Approved Residencies and Fellowships." Gives detailed information about the various examining boards.

Journal of Dental Education

Vol. 3, April 1939

*Council on dental education: Preliminary statement.—p. 236.

*Some present day concepts of professional education. W. G. Leutner.—p. 227.

COUNCIL ON DENTAL EDUCATION. A preliminary statement of the aims, policies, principles, and criteria being developed as the new plan for the accrediting of dental schools.

CONCEPTS OF PROFESSIONAL EDUCATION. Those sharing responsibility for educating in the professions must recognize that "in any highly organized profession there is a body of underlying theory which must be mastered by those aiming at practice" and that "additional training in practical proficiency either concurrent with the learning of theory or subsequent to it" is essential to a well-balanced program in professional education. With particular reference to dental education, it may be said that there is need of adjustment whereby the period of professional school preparation may be followed by internships, opportunities for research and advanced study similar to the plan followed in medical education. University education for the profession, as opposed to the apprenticeship and trade school training, justifies itself only if it develops "independent thinkers who have a philosophy of life and of service" and who have a sufficient command of the field to make independent contributions both in theory and in practice.

Journal of Higher Education

Vol. 10, July 1939

*Comment on general education. C. R. Griffith.—p. 291.

COMMENT ON GENERAL EDUCATION. The American colleges and universities have tried to serve a double purpose: to provide general education, and to afford passage to the professions. While, in theory, general education beyond high school was demanded as a preface to professional education (especially of the scholar, research man, doctor, lawyer, and teacher), in actual practice the demands of professional education have reached back into the programs of general education and tended to make them specialized prerequisites to advanced training. The contributions of the scholar and research man to the needs of society, exceeding the "wildest dreams of creative intelligence", have greatly benefited the common man, but at the same time the machinery of living has become sufficiently complicated so that high school training is no longer sufficient for effective participation in the new order. Two ways in which the double

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purpose may be met are: (1) for colleges and universities to divide as to function; and (2) for special arrangements to be set up for recognizing these types of demands within the same institution.

Journal of Medicine

Vol. 20, March 1939

*Medical education—after forty years. S. Dorst.—p. 3.

AFTER FORTY YEARS. Sir William Osler, the "apostle of modern medicine", delivered a series of lectures which has since been published under the title *Aequanimatis*. The first type of problem that he saw dealt with medical education in general, the schools. He thought that the medical schools should be expanded under the university, that hospitals and medical schools should become closely integrated for teaching, and that medical schools should recognize the dual function of the university, that is, "to teach and to think." Tremendous strides have been made in all of these points. The second type of problem dealt with medical education in particular, the student. The four attributes he considered essential to good students of medicine were: "art of detachment", "virtue of method", "quality of thoroughness" and "grace of humility". Before the student of today can begin to acquire these attitudes he must overcome fear, and master the "simple discipline of reading". Then he may become a "student of medicine", not simply a "medical student".

National Society for the Study of Education

Part II, 38th Year Book, 1939

General Education in Professional Education: A Symposium. I. The problem. E. J. McGrath.—p. 219; II. The relation between general education and medical education. F. C. Zapffe.—p. 221; III. General education in relation to legal education. H. W. Arant.—p. 227; IV. General education in the school of engineering. G. C. Doan.—p. 230; V. General education in the school of architecture. S. B. Zisman.—p. 235; VI. General education in the school of business. W. N. Mitchell—p. 240; VII. Relation between general education and nursing education. I. Stewart.—p. 244; VIII. Relation between general education and education for social work. M. Hathaway.—p. 249.

Proceedings of the Annual Congress on Medical Education and Licensure

February 1939

*Does modern medical licensure procedure conform to accepted standards of education? A. Furstenberg.—p. 45.

*The objectives, aims, and activities of the Commission on Graduate Medical Education. R. C. Buerki.—p. 63.

MEDICAL LICENSURE. Medical education and state boards of registration in medicine are essentially working toward the same end: that of providing well trained physicians for the profession. Between the former, whose objective is the preparation of men and women for practice, and the latter, whose legal purpose is to accept or reject physicians for the practice of medicine, there must be close cooperation based on mutual understanding of their respective aims, requirements, and functions. A time limit placed upon the acquisition of knowledge, such as the Medical Practice Law, fails to recognize the wide differences in student capacities to acquire fundamental learning.

COMMISSION ON MEDICAL EDUCATION. The commission is "studying the philosophy of graduate medical education, the formulation of educational problems and principles involved in the related phases of this subject, the continuation of medical training for a period of years after graduation, the adequate training of specialists, and recommendations for those in practice to keep abreast of new developments in diagnosis, treatment, and prevention." The commission does not attempt to accredit or evaluate facilities or to perform other administrative functions now carried on by the Association of American Medical Colleges, the American Medical Association, the American College of Surgeons, or other representative agencies. It is rather concerned with those problems common to all specialty boards and organizations dealing with different aspects of graduate medicine.

Scientific Monthly

Vol. 49, August 1939

*Some criticisms of college education. S. B. Ely.—p. 173.

COLLEGE EDUCATION. Some frequent criticisms of present college education prompt this consideration of three in particular. First: colleges are going ahead blindly, without an objective. While there are many differences of opinions and ideas of how to accomplish the objective, there is general agreement upon the fundamental objective of college education, namely, to develop the student. Second: colleges do not make useful men. Breadth of

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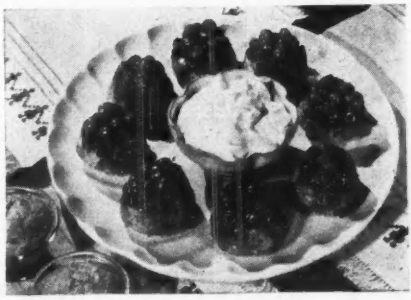

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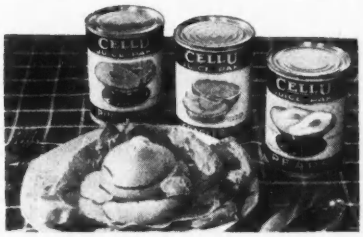
YIELD: 9 servings (1 pan 8½ inches in diameter or 9 cups 3 inches in diameter).



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knowledge has become increasingly recognized as a necessary corrollary of specialization. Realization of the importance of this has brought notable changes in recent years in, for example, engineering education. Third: there is lack of thoroughness in teaching. This criticism may be more valid, but it is most difficult to answer. The colleges are placed in a difficult position because of the requirements for specialization and constantly growing body of knowledge. "We sometimes lose sight of the development and training of the student's mind by thinking that the necessary thing is to fill him up with knowledge." Perhaps the best remedy at present would be to "teach less, but teach thoroughly what we do teach."

Teachers College Record

Vol. 40, May 1939

*Trends and patterns in the changing college curriculum. P. M. Limbert.—p. 669.

CHANGING COLLEGE CURRICULUM. Understanding of an educational system requires knowledge of the social and cultural background which fosters it. The present situation in higher education in America is the result of English, French, and German influences at successive periods during two centuries. Along with these, the character of American society was a basic factor in molding the development of colleges and universities, which were to differ very radically from the scholastic, aristocratic institutions of England and the continent. For many years the relation between general or cultural education and the vocational or professional elements in education has been a subject of debate. While, at different stages, the pendulum has swung from one emphasis to the other, the trend recently has been away from the very strong emphasis on specialization which characterized the period following the World War, for "it has long been pointed out that preparation for a living is much broader and more fundamental than preparation for a vocation." This challenge to professional education has resulted in a trend toward postponing entrance to professional schools and definite objection to highly technical pre-professional training. Consistently, now, the efforts of many educators are being directed toward finding a satisfactory integration of general and professional education which may avoid the disadvantages of either extreme.

INSTITUTION MANAGEMENT

The American Restaurant Magazine

Vol. 23, November 1939

Pumpkin pie—the perennial favorite. M. B. Strause.—p. 35.
*Mechanized checking provides efficiency control. R. F. Shaw.—p. 36.
New products—new profits. P. R. MacAlister.—p. 37.
*For the restaurant owner who wants to budget. G. O. Podd.—p. 43.

MECHANIZED CHECKING. The Viking Restaurant, Boston, employs a novel method of checking by machine all food and beverage sales.

BUDGETING. Thorough knowledge of every phase of the business and efficient accounting are the basis for restaurant budgets. Fixed expenses and variables must be recognized.

Buildings and Building Management

Vol. 39, December 1939

*Water and water piping. W. J. Ryan.—p. 18.
*A million-dollar system of air-conditioning.—p. 22.
Streamlined work-orders speed up tenant service. F. F. Kern.—p. 26.
Temperature control.—p. 28.
Case studies in decoration: IV. Rose building, Cleveland.—p. 36.

WATER AND PIPING. The first in a series of articles by a mechanical engineer, discusses water, piping and tanks with which water comes in contact in large building systems. Arrangements of systems, sluggishness of hot water circulations and the resistance of various pipes to corrosion is explained.

AIR-CONDITIONING BY DU PONT. Photographs and solutions of problems arising with the installation of the new million dollar air-conditioning system in the du Pont Company headquarters at Wilmington. New technical advances are presented that offer suggestions for other would-be air conditioners.

Horwath and Horwath Hotel Accountant

Vol. 19, December 1939

*The trend of business in hotels.—p. 3.
*Fluctuations in food costs. W. Knop.—p. 4.

BE SURE YOUR DISHES, GLASSES, SILVER ARE

CLEAR AS WELL AS CLEAN!

• No food you serve is half as appetizing as it could be, if it *looked* it! And no food can look its best when served with filmy dishes, fogged glassware, dull silver.

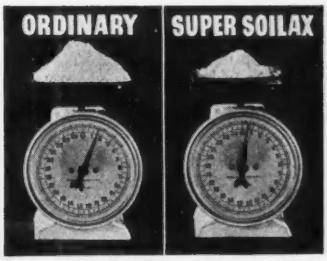
But how to get rid of that insidious lime film that seems to have an affinity to dishes, glasses, silver no matter how carefully they're washed? And how to do it without increase in your dishwashing costs? Simple! Use Super Soilax in your dishwashing water!

Super Soilax is no ordinary dishwashing compound. It prevents the precipitation of hard water lime salts, holds them in solution, insures free-rinsing and leaves dishes shining, glasses crystal-clear, silver sparkling. And Super Soilax does this at a lower cost *per month* than many compounds selling for far less *per pound!*

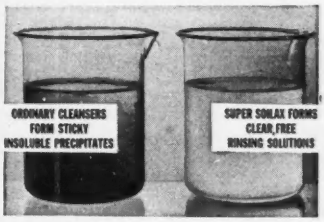
Get the facts. Call in the Super Soilax representative. Or write Economics Laboratory, Inc., St. Paul, Minn. No obligation.

SUPER SOILAX

FOR MECHANICAL DISHWASHING OF CHINA, GLASS, SILVER



IT'S CONCENTRATED, *that's why one pound of Super Soilax does more work than ordinary dishwashing compounds . . . and does it more thoroughly!*



A NEW CHEMICAL *in Super Soilax makes it form a more clear, more freely-rinsing solution . . . quicker! It saves you time, trouble and money in your dishwashing.*

FREE! *The special, patented waste-preventing Super Soilax Automatic Hydraulic Dispenser is loaned free to all Super Soilax users.*

FREE! *Super Soilax servicing by trained Super Soilax representatives is your assurance of a smoother-running, more trouble-free dishwashing operation.*

*Kitchen fuel—small hotels.—p. 5.
Proportion of beverage sales to food sales.—p. 7.
*Number of different items in food inventories.—p. 7.

BUSINESS TREND. Total sales in October, exclusive of exposition cities, were just about the same as in the corresponding month of 1938. Food costs per dollar sale in almost 60% of the hotels reporting were lower than in September 1938, the total average reduction being 1%. The total beverage cost per dollar sale was down 2%. The article gives tables showing sales, occupancy and room rate for October 1939 as compared with October 1938 and a comparison of food and beverage costs for the 2 years.

FOOD COST FLUCTUATIONS. Discusses the 4 major factors in restaurant cost ratios and their fluctuations: volume of sales, menu writing, market prices, and commissary operation.

KITCHEN FUELS. According to the figures tabulated in the article for 12 hotels, the cost of cooking fuel in the kitchens of small hotels averages about 1½% of the total monthly food sales.

FOOD INVENTORIES. Includes a table presenting summary of a study made of the inventories of 50 hotels to ascertain the number of food items carried in hotel inventories. The summary shows a steady, fairly uniform decrease in the number of food items in stock with lower sales. The largest and most varied stocks are of meats, vegetables and fruits.

Hospitals

Vol. 13, December 1939

*Organization and management of the hospital food service—Part 1. E. M. Geraghty.—p. 95.
*Dietary and housekeeping management in the small hospital. V. Clark and F. Lipsit.—p. 106.

HOSPITAL FOOD SERVICE. Gives a detailed account of the organization and management of the food service in a large hospital in Baltimore. The organization of the administrative, therapeutic, teaching and research departments is outlined.

DIETARY AND HOUSEKEEPING MANAGEMENT. The small hospital needs a dietitian trained in food therapy and can afford her services if the position is combined with that of housekeeping.

Hospital Management

Vol. 48, November 1939

*Mercy Hospital's guest dining room serves three-fold purpose. M. McKittrick.—p. 42.
*Smoked turkey tempts appetite. A. Vanderbilt.—p. 44.

GUEST DINING ROOM IN HOSPITAL. A dining room for guests and special nurses with selective menu as used on private floor eliminates guest trays and pleases the clientele.

SMOKED TURKEY TEMPTS APPETITES. The process of smoking turkey is described and recipes given for its use.

Hotel Management

Vol. 36, November 1939

*Profit from your closets.—p. 28.
*Good food hints. L. P. De Gouy.—p. 34.
*Profits from casserole cookery. P. J. Berard.—p. 42.
*How the engineer ties in with the food departments. M. J. Peterson.—p. 46.

CLOSETS. Gives suggestions and examples in modernizing the closets in hotel rooms to afford more efficient use of space, thus making the guest, especially the woman guest, more comfortable and more at home in the hotel room. Suggestions given could apply to college residence halls and other types of institution where a minimum amount of storage space must be used most advantageously.

GOOD FOOD HINTS. All about soups from the point of view of one who has worked with them. Soups may be classified into 3 groups—thin, clear soups; thin, light, delicate cream soups; and heavy thick soups or chowders—each of which has a definite place in the menu. Certain precautions are brought out which are necessary in the preparation of all soups. Suggestions are given for more attractive and efficient service and for securing a better product.

CASSEROLE COOKERY. The Roosevelt Hotel, New Orleans, features attractive food served piping hot in earthenware or bi-metal casseroles. Casserole dishes which are most popular are sea foods and fish, with chicken running a close second. Recipes are included.

THE ENGINEER. Shows how the engineer can be of aid in the operation of food departments by checking on consumption of gas, water,

A natural way

TO ADD VARIETY AND ESSENTIAL FOOD ELEMENTS TO CHILDREN'S DIETS

Enriched by nature, Ralston contains only those natural food properties found in pure whole wheat

Many physicians agree that Ralston in contrast to refined or built up foods provides a natural, economical way to add the essential food properties of whole grain to the diets of infants and growing children.

Ralston is a natural wheat cereal naturally fortified with wheat germ for additional vitamin B_1. In the milling process nothing is removed except the coarsest outer wheat bran. The natural bulk so often required after the "starting cereal" period remains in Ralston.

Try delicious Ralston yourself. See if it isn't the natural way to please children and provide the valuable food properties so important in youngsters' diets.

Easily digested. Another reason Ralston is widely prescribed at the time doctors recommend a change from starting cereals.

RALSTON WHEAT CEREAL
ANALYSIS IN GRAMS
Based on 30 grams Dry Ralston

	GRAMS
Fat	.51
Protein	4.5
Carbohydrates	21.0
Ash	.5
Iron	.0012
Calcium	.015
Phosphorus	.12
Manganese	.0012
Copper	.00018

106 Calories

30 grams Ralston Wheat Cereal contain 45 International Units vitamin B_1. Ralston is a rich source of vitamin E and a good source of vitamin G.

FREE SAMPLES—Simply write your request on a penny postal and address Ralston Purina Company, 914C Checkerboard Square, St. Louis, Mo. (This offer limited to residents of the United States.)

Children love it

Cooks in 5 minutes

RALSTON . . . ***natural*** **wheat cereal** ***naturally*** **fortified with added wheat germ for extra vitamin B_1**

electricity and refrigeration. More economical use of these, checks on the amounts used, and careful and routine inspections of equipment, all help to eliminate waste and materially lower operation costs.

The Hotel Monthly

Vol. 47, November 1939

Your public washrooms should attract, not repel, business.—p. 12.
100 years of menu making.—p. 26.
*Hotel on campus.—p. 29.
*Housekeeper's primer. J. C. Van Ness.—p. 35.
*National restaurant association.—p. 39.
*The coffee shop—meat and fowl. E. Boles.—p. 41.
The successful American hotel—1939 model. F. W. Eckert.—p. 53.

CAMPUS HOTEL. A new idea in education, proposing a combined 50-room inn, faculty club, laboratory, class rooms and dormitory for hotel training students at Michigan State College, East Lansing, as discussed after presentation by the Michigan Hotel Association Education Committee at a recent monthly meeting.

HOUSEKEEPING IN SMALL HOTEL. This month Jane C. Van Ness lists standard practice instructions for maids and housemen, and suggests diplomatic ways of dealing with employees in difficult situations.

RESTAURANT CONVENTION. A description of the 21st annual convention, which emphasized the use of electricity both as an illuminant and sterilizer; includes digests of speeches concerned with current problems of hotel and restaurant managers.

RIB ROASTS. A hotel chef tells how to roast a prime rib of beef, using exact time and moderate temperature methods instead of the old "guess it's done" method. He also describes new entrées of liver, turkey drumsticks, and French pancakes.

Journal of Home Economics

Vol. 31, December 1939

*Flavor in foods. B. M. Watts.—p. 673.
*The local home economics association and health and welfare agencies. E. Guilford.—p. 680.
*Undergraduate and graduate preparation for home economics research. A. F. Morgan.—p. 685.
Training for informative selling. A. G. Douglas.—p. 696.
Information about merchandise available to customers in retail stores. A. L. Edwards.—p. 701.
*National restaurant convention. E. M. Eck.—p. 704.
*Practical experience for undergraduate students. E. G. Donelson and H. Peterson.—p. 705.
*The calcium and phosphorus contents of vegetables cooked in fat. H. H. Yu and M. L. Fincke.—p. 711.

FLAVOR IN FOODS. A discussion of the factors affecting flavor in foods and ways and means by which flavor can be improved in various foods. By far the most important (and least understood) component of flavor is smell, concerning which most of the article deals. Includes a review of recent research.

HOME ECONOMICS IN COMMUNITY. A review of the work accomplished by the social welfare and public health department of the New York City Home Economics Association showing how much home economics can do in community activities. Especially interesting is the work of the food committee which, by pricing 3 times a year a list of foods used by low-income families, keeps agencies informed about changes in the costs of foods so that relief allowances can be adjusted accordingly. Other work by the department includes a list of clothing prices, a list of bakeries selling day-old bread, cooperation with the Civil Service Commission in setting up a classification for home economists, radio programs, and the selection of tenants to live in housing projects.

PREPARATION FOR HOME ECONOMICS RESEARCH. Unless and until an active, effective research program dominates each section of the home economics divisions of the colleges, there will continue to be a dearth of able research workers and probably of able instructors. The type of future research personnel can be controlled indirectly by strengthening the intellectual content of all undergraduate courses through use of research methods. For the student who has the ability and the desire to enter the research field, the general home economics major unsupplemented is not a sound foundation, no matter how carefully constructed and taught. If every member of the teaching staff were an active participant in research and every research worker of academic rank an active teacher, increased production of both research data and worthy new research workers would result.

NATIONAL RESTAURANT CONVENTION. The convention made a departure this year by

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NEW YORK CITY

October 20–24

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ORANGE AND
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Nothing taken out but the water and nothing added—no sugar, preservatives or adulterants. Ready to serve when the water is returned. Reproduces, with remarkable fidelity, the nutritional values of the fresh fruit juice itself.

Superintendents and Dietitians welcome the convenience, economy and safety of this better way of providing citrus juices for hospital use.

Juice Costs: *Orange, 60c gallon*
Grapefruit, 45c gallon

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

Fill out and mail the coupon below now, for FREE samples and further details.

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having a section devoted to the problems of university and college dining halls; over 50 residence hall managers attended the sessions. The article gives a summary of the subjects discussed by this section and the suggestions made.

PRACTICAL UNDERGRADUATE EXPERIENCE. Valuable practical experience is offered junior and senior students in a nutrition course at the University of Minnesota, and a few graduate students in foods and nutrition, by participation in the nutrition clinics for undernourished children, that have been operating most successfully for some time under the direction of Agnes Larson, nutritionist and home economics supervisor in the St. Paul school system. At the same university, each student majoring in foods during her senior year serves a 6-week apprenticeship, working two afternoons a week in the home service department of either the Minneapolis Gas Light Company or the Northern States Power Company, both of which are under the direction of competent home economists.

CALCIUM AND PHOSPHORUS CONTENT. Because of the comparatively low amount of calcium and phosphorus in the average Chinese diet, a study was made of the loss of these minerals from vegetables cooked by a common Chinese method of sautéing quickly in a small amount of fat. Asparagus, celery, cabbage and peas were analyzed for calcium, and asparagus and peas for phosphorus also, while raw, and after being cooked by the above method. Results showed no loss of these minerals in the cooked vegetables.

Modern Hospital

Vol. 53, December 1939

*Points on personnel. A. B. Atkinson.—p. 86.
*Food for thought.—p. 88.

PERSONNEL. Satisfactory selection of employees demands a thorough appraisal of the applicant's training, experience and personal characteristics in relation to the requirements of the position.

CLEANING. Methods of handling the slippery kitchen floor situation in hospitals are presented. Seven dietitians answer the question of cleaning range tops by presenting their cleaning processes.

The Nation's Schools

Vol. 24, December 1939

*Qualities to seek in a teacher. H. L. Shibler.—p. 25.
*Fighting fire hazards.—p. 27.
*Selecting kitchen equipment. K. W. Harris.—p. 62.
*Better plant practices.—p. 66.
*Braille food graphs.—p. 76.

QUALITIES IN TEACHERS. Eight important points in judging a food teacher, among which are the amount of training and experience, health and health habits, ethical character, professional attitude, use of leisure time and initiative, are discussed.

FIRE. In order to prevent fires, Purdue University has set up definite rules for its janitors. Checking on fire extinguishers, cleaning up of waste, disuse of inflammable materials and means of checking are some of the points stressed.

KITCHEN EQUIPMENT. Monel metal vs. stainless steel, galvanized iron, sheet metal and different qualities of wood as construction materials for school cafeteria equipment are fully considered. Use of the equipment determines to a great extent the material selected.

PLANT PRACTICES. To best control light efficiency and glare, double hung shades that operate from the center of the window have proved most satisfactory. A formula for cleaning paint without removing the shine or scratching walls is included. Lists the 9 points used by Teachers College, Columbia University, in selecting custodians.

BRAILLE FOOD GRAPHS. These graphs in share units are used in teaching blind high school pupils food and nutrition, and can be applied to education of blind adults.

Personnel Journal

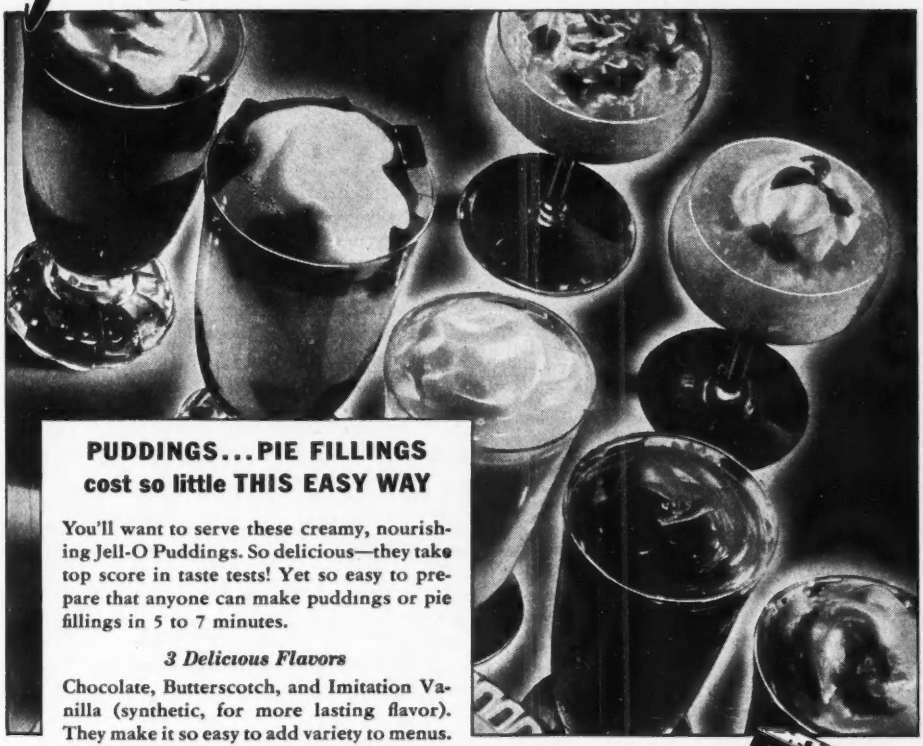
Vol. 18, November 1939

*Million dollar research. C. S. Slocombe.—p. 162.
*Industrial uses for applied psychology. C. E. Goode and O. C. Trimble.—p. 173.
The seniority curse. F. W. Cottrell.—p. 177.
*Hiring telephone men by tests. N. E. Rossett and P. Arakelian.—p. 184.
Personnel research federation. The director.—p. 193.

EMPLOYEE COUNSELING. Describes how the Western Electric Company, while trying to

Tempt Weak Appetites

WITH THESE NOURISHING DESSERTS!



PUDDINGS...PIE FILLINGS cost so little THIS EASY WAY

You'll want to serve these creamy, nourishing Jell-O Puddings. So delicious—they take top score in taste tests! Yet so easy to prepare that anyone can make puddings or pie fillings in 5 to 7 minutes.

3 Delicious Flavors

Chocolate, Butterscotch, and Imitation Vanilla (synthetic, for more lasting flavor). They make it so easy to add variety to menus. You'll find it practical to serve all three as puddings—and as pie and cake fillings, too.

Purest Ingredients

If you were to choose the ingredients yourself you could not select any finer than we use in Jell-O Puddings. We guarantee these products will meet the highest standards of purity. Remember, they're economical, too. Jell-O Puddings are sold by your jobber.

The General Foods man who calls on you is trained to be helpful on food problems. He is at your service at all times.

Chocolate flavor contains milk solids, and requires only water. The other two flavors require the addition of milk.

JELL-O PUDDINGS

PRODUCTS OF GENERAL FOODS

achieve the efficiency for which their plant was equipped, discovered the root of faulty supervisor-employee relations. Several different types of tests were tried on persons with supposedly equal ability and under the same conditions, the results of each being inconsistent. No insight into the problem was gained until it was decided to interview every employee, partly to determine latent talent and partly to find better material for foreman training. The unloading of grievances resulted, that employees had never had a chance to express to authorities, and which had arisen out of faulty supervisor-employee relations, lowering morale and proficiency in work. Today a system of personnel counseling reduces dissatisfaction, releases energies and produces cooperation among employees and supervisors.

INDUSTRIAL PSYCHOLOGY. To determine how psychology might apply to industry, personnel technicians and administrators, factory employees and university students evaluated the importance of problems on a list compiled from books in this field. Problems of selecting and adjusting the worker headed the list in the evaluation. The conclusion was that most of industry's difficulties can be removed with the development of improved methods of selecting and placing workers, better methods of supervision and better training methods.

HIRING. For hiring the correct man for a specific job, the industrial psychologists of the New York Telephone Company have devised a battery of tests which have a reliability of .853 and a forecasting efficiency of .272. When the criterion score is set, they can predict and avoid a number of failures in a given number of employees.

Restaurant Management

Vol. 45, December 1939

*Organization chart—Kugler's restaurant. W. O. Voegele.—p. 4.

Kugler's "five star" recipes. W. O. Voegele.—p. 14.

*Principles that produced successful menus. W. O. Voegele.—p. 15.

*"Service is thoughtfulness." W. O. Voegele.—p. 22.

*R or no r—they sold 543,050 oysters. W. O. Voegele.—p. 32.

*How to keep out of a rut. W. O. Voegele.—p. 38.

KUGLER'S RESTAURANT. Kugler's, Philadelphia, is one of the most interesting restaurants in the country. It serves guests in a main restaurant, a cafeteria, a marine grill, 2 banquet rooms and the rainbow bar. Gives a complete picture of the organization and operation policies of this restaurant, and a floor plan of the main floor.

MENUS. This restaurant has greatly increased its popularity through carefully planned menus. Twelve steps include checking food in season, marketing prices, food quality, left-overs in ice box, price range on menu, and set-up and wording of menus for customer appeal. To increase business, menus are mailed to patrons and their friends. Special menus are made for children.

FOOD SERVICE. In training service employees, stress is placed on the "spirit to please". This is promoted through neat colorful uniforms of waitresses, serving of a second cup of coffee at dinner, and free passing of rolls and butter. A special "soil" report takes care of mishaps to guests.

OYSTERS. Indicating the locality from which oysters come adds to menu interest and customer satisfaction. A fisherman's preparation center and a chef's are used for fish according to the type of preparation required.

AVOIDING STAGNATION. To keep out of a rut the restaurant suggests planning meals around a different general theme each month. The more novel the idea the more interesting the meals.

How completely do infants digest quick-cooking cereals?

To determine the answer to this question, a prominent pediatrician, head of a large children's hospital, conducted an investigation among 26 infants between the ages of three and 24 weeks.* Fourteen were limited to a diet of "New 5-Minute" Cream of Wheat; while the other twelve were fed a mixture of three well known hot wheat cereals of the slow-cooking type.

The "New" Cream of Wheat was cooked five minutes; the other hot wheat cereals, half an hour.

Result. Upon examination of the 26 stools, not a single starch granule was observed.

Significance. There is apparently ample justification for the statement that "New 5-Minute" Cream of Wheat cooks to complete digestibility in five minutes of boiling.

Besides quick-cooking, made possible by an exclusive new process of pH control, this improved cereal offers additional advantages. It contains added phosphorus, calcium, iron and Vitamin B_1; and it tastes richer, wheatier. In no other respects does it differ from the "Regular" Cream of Wheat many physicians have advised for 45 years. Both are now available, at the same price, at most food stores.

For further information and clinical samples, write to The Cream of Wheat Corporation, Dept. S2, Minneapolis, Minn.

*Complete report soon to be published.

Mineral and Vitamin content of "NEW 5-MINUTE" CREAM OF WHEAT in average servings of 20 grams

PHOSPHORUS	118.0 milligrams
CALCIUM	101.0 milligrams
IRON	8.5 milligrams
VITAMIN B_1	11.0 Int'l Units

Copr. 1940, The Cream of Wheat Corp.

NEWS NOTES

American Dietetic Association. Through error the name of Ella M. Eck appeared as a member of the Finance Committee instead of that of Lute Troutt, University Hospitals, Indianapolis, in the December JOURNAL.

The appointment of Effie Mae Winger to fill the unexpired term of office of Virginia H. Ray as a member of the Placement Bureau Board was unanimously approved by the Executive Board. The resignation of these two officers, Miss Ray and Miss Hinyan (as noted in the January JOURNAL), places Selma Streit as chairman of the Board by reason of seniority of service.

The president, Mrs. Beula B. Marble, at the suggestion of Melva Bakkie of the American Red Cross, has asked the following people to serve on an advisory committee in the enrolment of dietitians for Army, Navy, and Red Cross service: Helen Burns, Lenna F. Cooper, Mame T. Porter, Lute Troutt, Dr. Malcolm T. MacEachern, and Dr. W. H. Sebrell. Mrs. Marble will also serve on the committee.

The Administration, Diet Therapy, and Community Education Sections of the A. D. A. this year are discontinuing the preparation of the usual bibliographies. However, new bibliographies on Foreign Food Habits and Customs, covering specifically Hawaii and the Near East, are now available. These contain general and background references culled from technical and fictional literature.

A Daughter to Dr. and Mrs. Alexander Marble. A daughter, Elizabeth Myers, was born on December 27, 1939, at the Richardson House, Boston Lying-In Hospital, to Dr. and Mrs. Marble. Mrs. Marble is president of the American Dietetic Association.

The American Home Economics Association has announced plans for a permanent historical materials collection aided by a legacy from the estate of Lillie C. Smith of Brookline, Massachusetts. A nucleus of this material has already been formed by means of certain books and papers of Mrs. Ellen H. Richards and Mrs. Mary Hinman Abel, supplemented by other books, documents and photographs.

The Historical Materials Committee is appealing to all interested in building such a historical collection and will be glad to hear from those interested. The committee should be addressed at 620 Mills Building, Washington, D. C.

The American Library Association announces the publication of a booklist for hospital libraries which will replace the semi-annual list of books for hospital use. The new undertaking will be edited by Elizabeth Pieters, and the subscription price will be $1.00 a year. Each issue will include reviews of about 50 carefully selected fiction and non-fiction titles, with annotations telling for what types of patients each book may be safely used.

Conference for Dietitians and Food Administrators. The Florida State College for Women and the State Board for Vocational Education announce a Conference for Dietitians and Food Administrators to be held at the State College March 27–30 1940, under the auspices of the Florida Dietetic Association. Dr. James S. McLester of Birmingham will open the conference. Marie Casteen of the Hotel Statler Company will direct the work in quantity food production. Dietitians, school lunchroom managers, and operators of food departments in hotels and restaurants are expected to attend.

National Council for Mothers and Babies. A meeting to report activities and progress during the past year was held in Washington, November 4, with representatives of forty-one national agencies attending. Mrs. Anna de Planter Bowes represented the A. D. A. The stated purpose of the council is to help reduce maternal and infant mortality in the United States. To accomplish this it has worked along three main lines, providing information service, stimulating community activities and coordinating professional services. Information so far has been in the form of magazine and newspaper editorials and publicity, radio addresses and special reports on maternal, fetal and neonatal deaths. North Carolina was the state selected last year for stimulating community and professional cooperation. In August 1939, California requested help in developing a state-wide plan on better care for mothers and babies.

GOOD NEWS IN THIS FINE-FLAVORED FOOD DESSERT

Whole Wheat Chocolate Pudding

ANOTHER FAMOUS FIXT PRODUCT

● Since its introduction just a few months ago, this new FIXT product has really "clicked" with lovers of good food. But—in addition to its tasty flavorfulness, just look at this excerpt from a laboratory analysis:—

"This product is high in protein and in fat content and relatively low in total carbohydrates (starch, sugars and similar substances).

"The product is especially rich in iron. Its iron content equals that of liver, one of the best sources of iron. It is also high in calcium, containing twice as much of this element as an equal quantity of cow's milk. Further, it is rich in phosphorus. Of the latter, it contains about twice as much as of calcium, which is an ideal ratio of these two important bone-building ingredients."

Consult your jobber, or write us direct at once, care of Dept. JD Ask for our helpful booklet "76 FIXT Recipes."

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The Original ROLLED EDGE TRAY

Eleven Correct Sizes—
One for Every Service

Light
Strong
Attractive
Quiet
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Economical

That's all—but, of course, that's all there is to the perfect tray—and CAFATRAYS have every one of these characteristics.

Ask your equipment dealer—and *demand genuine CAFATRAYS*

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At the luncheon and afternoon session specific questions were assigned to each table and the chairman reported on the results of group discussion. Among the questions discussed were: Shall we make a frontal attack on the charity concept in maternity and infancy care? Is "a little knowledge a dangerous thing" in refresher courses in obstetrics and pediatrics for rural practicing physicians? All the publications of the council have been compiled in a book. This will be kept up to date and will be available from Dr. Martha Koehne, chairman, Community Education Section, 75 Eighteenth Ave., Columbus, Ohio, or from Dorothy Lenfest, at 185 N. Wabash Ave., Chicago.

New York Nutritionists. At the December 1939 meeting, Dr. H. C. Sherman, Columbia University, discussed the questions: how specific is a species in its chemical composition, and to what extent does what we eat make us what we are? These are among the questions which the newest chemistry of nutrition is now answering, no longer solely in terms of individual opinion, but objectively by chemical analyses and statistical studies of life histories or of families through successive generations.

According to Dr. Sherman, food is found to influence the chemical composition, or "internal environment" of the body in a much more significant degree than science has hitherto supposed; and it is this internal environment that directly conditions the actual processes of life. In addition to all that one owes to heredity and to good luck in the original chromosomal endowment of each individual life, one also has the power to build a superior internal environment with resulting higher health and efficiency, an improvement in both duration and quality of life, through one's daily choice of food, not only as to kinds, but also as to relative amounts. The science of nutrition and the profession of the nutritionist thus grow into a position of unexpectedly great responsibility in the conservation and advancement of human health and progress.

The Eighth American Scientific Congress will be held in Washington, D. C., May 10–18, under the auspices of the government of the United States. Pursuant to a special act of Congress, invitations on behalf of the President have been extended to the governments of the members of the Pan American Union to participate in the forthcoming meeting. Scientific institutions and organizations are also cordially invited to send representatives.

The Honorable Cordell Hull, secretary of state, has requested government officials and distinguished scientists to serve on an organizing committee to collaborate with the Department of State in formulating plans for the Congress. Among these are The Honorable Sumner Welles, under secretary of state, chairman; Drs. C. G. Abbot, secretary of the Smithsonian Institution; Isaiah Bowman, president, Johns Hopkins University; Vannevar Bush, president, Carnegie Institution, Washington; and Thomas Parran, surgeon general, United States Public Health Service.

The interests of the Congress will be divided into the following sections: anthropological, biological and geological sciences; agriculture and conservation; public health and medicine; physical and chemical sciences; statistics; history and geography; international law, public law and jurisprudence; economics and sociology; and education.

An Aftermath of the League of Nations 1938 Nutrition Conference. Sybil Smith of the Office of Experiment Stations, U. S. Dept. of Agriculture, writes: "Not the least among the benefits which came to me from the privilege of attending this conference have been the continued contacts, in spite of the war, with the people I met at that time. The other day a note came from the Rowett Institute asking for an old Farmer's Bulletin dating back to the previous war which was requested 'with every possible urgency'. Within an hour from the time it was received the bulletin had started on its way by Yankee Clipper and I am now trying to get other more recent publications bearing on the same problem of intensive cultivation of crops and foodstuffs."

Vitamins and Grocery Stores. *Food Industries* for December, 1939, states that "A court in Indiana has contributed a bit of judicial clarification to the place of vitamins in our human economy. Differentiating between heavy therapeutic doses of vitamins for curative purposes, and smaller doses which are, in the court's opinion, merely food supplements, vitamins therefore are a part of our food. And by the

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Mammoth	No. 2½ Square	17-24
	No. 2 Round	17-24
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	No. 2 Round	25-33
Medium	No. 2½ Square	35-44

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Colossal	No. 1 Square	13-20
	Picnic Round	7-10
Mammoth	No. 1 Square	21-30
	Picnic Round	11-16
Large	No. 1 Square	31-40
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Medium	No. 1 Square	41-60
	Picnic Round	23-30
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foregoing reasoning the court overturns a ruling by the Indiana Board of Pharmacy, which had prohibited the sale of vitamins in grocery stores. Vitamins, the board had averred, were pharmaceuticals and thus were restricted to sale in drug stores. Vitamins are now food supplements in Indiana. Apparently, this is the first case of this character to be tried before a court."

European Journals and the War. The nonreceipt by a subscriber of any European chemical or other scientific journal seriously needed as research material should be promptly reported to the American Documentation Institute, whose Cultural Relations Committee, cooperating closely with the Cultural Relations Division of the Department of State, is working on this problem, and hopes to be able to surmount such war obstacles as interrupted transportation, embargoes and censorship. Reports, with full details as to where subscription was placed and name and address of subscriber, volume, date and number of last issue received, should be addressed to American Documentation Institute, Bibliofilm Service, U. S. Department of Agriculture Library, Washington, D. C.

Labeling and Food Law. Two publications of interest, now available, are: "Federal Food, Drug and Cosmetic Act and General Regulations for its Enforcement", published by the United States Department of Agriculture; and "Problems Under Informative Labeling", published by American Management Association, 330 West 42nd St., New York. The first named pamphlet contains the text of the new food, drug and cosmetic law, as amended, and general regulations for its enforcement, defining wrapped meats as in package form, defining butter, and providing a standard therefor, and providing for the inspection of seafood. The second pamphlet presents the pros and cons of informative labeling and the viewpoints of the manufacturer, the retailer, and the consumer.

Ice Cream Defined at Hearing. According to *Food Industries* for December 1939, representatives from the ice cream industry suggested ways in which the Food and Drug Administration might define ice cream and ice cream mixes. In brief these recommendations were as follows: "Ice Cream Mix may contain one or more of the following ingredients: eggs, egg products, harmless coloring, table salt, stabilizer. It may not contain more than one-half of one per cent by weight of stabilizer, nor less than 10 per cent by weight of milk fat, nor less than 18 per cent by weight of milk solids. Ice Cream contains not less than 10 per cent by weight of milk fat, and not less than 18 per cent by weight of total milk solids, except when fruit and fruit juices, nuts, cocoa or chocolate, etc., are used for the purpose of flavoring; then it shall contain not less than 10 per cent by weight of milk fat, and not less than 18 per cent by weight of total milk solids, except for such reduction in milk fat and in total milk solids as is due to the addition of such flavoring, but in no case shall it contain less than 8 per cent by weight of milk fat nor less than 14 per cent by weight of total milk solids." The Food Standards Committee was much impressed by the general character of the definition and appeared disposed to accept the major arguments.

Field Practice Course at the New York Hospital. The field practice course, under the direction of S. Margaret Gillam, July 8–August 16, offers observation and experience in the management of hospital food service. Students register for this course and for Institution Management S151 during regular summer registration period at Teachers College, July 3–6. Fees including registration amount to $82. Meals may be secured at the hospital at cost and rooms are available at reasonable rates at the Studio Club, 210 East 77th St., and in apartments in the vicinity. The course is open to graduate dietitians whose training and experience are satisfactory to the instructor. Since numbers are limited, it is suggested that application be made before May 1.

The course is equally divided into administration and diet therapy. Administrative experience is given in menu planning, food ordering, purchasing, food stores control, use of quantity recipes in food preparation, food accounting, payroll analysis and control of supplies and equipment through inventories. Four kitchen and nine dining rooms are in operation in the hospital and about 6000 meals are served daily. Operating on a commercial basis are two cafeterias, a soda fountain and lunch counter and a guest dining room. Special emphasis is placed on budgetary control of these units.

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BANANA BRAN MUFFINS
IT'S SMART to vary your daily hot breads with something different—something as special and popular as Banana Bran Muffins. Here's a fresh fruit muffin that's good morning, noon, or night—a muffin that tastes good hot or cold, and keeps moist and fresh for hours. These Banana Bran Muffins are easy to make and fit especially well into the institutional menu. Try them and mail the coupon for other original recipes!

BANANA BRAN MUFFINS

Amount for 1 muffin: 2¼ ounces mixture	6 dozen muffins 10 pounds 2 ounces mixture		15½ dozen muffins 26 pounds 10 ounces mixture	
INGREDIENTS	**AMOUNTS OR WEIGHTS**	**COST**	**AMOUNTS OR WEIGHTS**	**COST**
Flour	2 pounds		5 pounds	
Soda	1 ounce		2½ ounces	
Salt	1 ounce		2½ ounces	
Sugar	14 ounces		2 pounds 3 ounces	
Bran	2 quarts		5 quarts	
Eggs	8		1 quart	
Sour milk or buttermilk	½ pint		1¼ pints	
Melted shortening or oil	8 ounces		1 pound 4 ounces	
Bananas*, peeled	4 pounds 8 ounces		11 pounds 4 ounces	

*Use all-yellow or fully ripe bananas

Sift together flour, soda, salt and sugar. Add bran and mix well. Beat eggs well. Add milk and shortening and blend. Add bananas, beating only enough to break them into small pieces. Add flour mixture, mixing only enough to dampen all flour. Turn into well-greased muffin pans and bake in a moderate oven (375° F.) 30 to 35 minutes, or until muffins are done.

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For study of diet in relation to disease, and experience in diet administration, assignments are made to the various clinical services. On staff rounds the doctors emphasize the dietary care of the patients for the benefit of the students. A series of lectures is given on recent advances in nutrition and readings from a selected bibliography are assigned for discussion. Clinics are arranged by physicians on the staff of the New York Hospital and Cornell University Medical College. Students become acquainted with the educational work of the hospital as it is presented for patients, student nurses and medical students. This includes: individual and group instruction of in-patients; classes in nutrition and milk formula preparation for mothers; and instruction in the nutrition clinic to out-patients, student nurses, medical students and special students.

For further information write S. Margaret Gillam, the Society of the New York Hospital, 525 East 68th Street, or Mary de Garmo Bryan, Teachers College, Columbia University, New York.

Y. W. C. A. School of Homemaking, Providence. The Providence *Evening Bulletin* for December 15 carried a feature article on the customs of other countries during festival seasons, as presented by the School of Homemaking, in entertaining the Rhode Island Dietetic Association. Mrs. Lucia Sarkissian, Armenian secretary of the International Institute, described the Armenian celebration during which the children go from door to door singing carols and receiving little cakes and candy. Mrs. Sarkissian, attired in her native costume, made coffee in an Armenian *jazva*, mixing the powdered coffee with sweetened water and heating over an open fire.

Eleanor Wells, director of the school, outlined customs of other nations during the Christmas season, including the Portuguese, Italian and Russian. For these people Christmas is a great season of feasting and the tables are loaded with mounds of fruits, various meats, vegetables and delicacies.

After the presentation, refreshments were served, including *paklava*, the festive pastry made with walnuts and honey, baked for the occasion by Mrs. Sarkissian, and Russian candy known as *marmalad*, a sort of paste with real fruit flavor. There was also the Italian *Torrone di Benevento*, a Christmas sweetmeat, and Portuguese *Sosperos*, a meringue, made by Mrs. Maria Bairos.

Dallas Dietetic Association. The invitation of the local association to the Texas Dietetic Association to hold the 1940 state convention in Dallas was accepted at an executive session held in Dallas in October, called by Nell Morris, president. A luncheon was served to committee members in the private dining room of Virginia Hall, Southern Methodist University, by Mary Clark, dietitian.

Rosa Spearman, director of the Dallas School Lunchrooms, has announced a course in cafeteria training for high school girls who wish to work in cafeterias, at the Technical High School and directed by Ruth Heckler, cafeteria manager. A careful survey of lunchrooms and cafeterias of Dallas was made by Miss Spearman before the course was offered. Miss Spearman is author of an article in the November 1939, *Nation's Schools*, entitled "Laying our School Lunchrooms."

Drewsilla Beams was recently appointed dietitian at Hillcrest Memorial Hospital, Waco, Texas.

Jane Harper, dietitian, Waco State Home for Children, was married to Dr. John Wiggins, November 18. Dr. and Mrs. Wiggins will be at home at Sanatorium, Texas, following a trip to New Orleans.

Frank Selecman, M.D., discussed "Socialized Medicine" at the November 13 dinner meeting of the Dallas Dietetic Association at Hotel Stoneleigh. Mert McCollum, who recently accepted a position outside of Dallas, was presented with a piece of Lennox china by members of the association at the meeting. Rose Richter, dietitian, Methodist Hospital, and president of the Dallas Dietetic Association, discussed plans for the state convention. Members of the association were given rosters of the membership which now numbers fifty-seven.

Mary Clark was hostess at the Christmas Party on December 18.

Massachusetts Dietetic Association. The December meeting was held at the Women's Educational and Industrial Union, Boston. Marie Casteen, director of recipe research, Hotel Statler, spoke on "Getting Together on Vege-

Cocomalt GOES TO CAMP

A group of undernourished, underprivileged children, recommended by hospitals in New York City and supervised by a physician interested in public health, was the subject of a 27-day nutrition study.* They were divided into two equal groups. Three times daily Group A was given COCOMALT with milk; Group B received milk with no addition. All the youngsters received the same well-balanced diet and excellent supervision. Naturally both showed good progress; however, those receiving COCOMALT showed significant gains over Group B.

These statistics show that COCOMALT has a definite place in the feeding of children. The rich, full flavor acts as an incentive to young and old to drink milk. COCOMALT contains calcium, phosphorus, iron . . . Vitamins A, B_1, D and G . . . supplies quick energy . . . body building nutrients.

	Group A (COCOMALT)	Group B (No COCOMALT)
Average Weight Gain	2.46 lbs.	1.9 lbs.
Hemoglobin and Red Cell Count Increase	28%	16%
Hemoglobin Increase	36%	32%
Red Cell Count Increase	56%	40%

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THE MALTED FOOD DIETONIC

*Archives of Pediatrics, November, 1939.

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tables." The meeting was preceded by a dinner at the Union given in honor of Miss Casteen.

All food service at the Massachusetts General Hospital, except for private patients, has been transferred to the new George Robert White Memorial building. Edith Hobson, formerly with the University Hospitals, Cleveland, is now in charge of all serving rooms at the George White Memorial building. Marjorie Beach, a former Massachusetts General Hospital student, who has been working at the Tuberculosis Sanatorium in Orlando, Florida, has the position as main kitchen dietitian in the George White Memorial building.

Blanche Collier, formerly of the North End Diet Kitchen, Massachusetts General Hospital, is enjoying the new home which she and her sister have built in Bethany, Illinois.

Greater New York Dietetic Association. The January 8 meeting was held at the Red Cross Building with Dr. Walter Eddy speaking on "Progress in Vitamin Research". On January 15 the association met at the New York Academy of Medicine to hear Dr. Weston A. Price give the Rhein Memorial Lecture on "New Light from Primitive Races on Our Modern Physical, Mental and Moral Degeneration", with illustrations.

Ohio Dietetic Association held its first biannual meeting in Cleveland, October 24–25, at the Hotel Cleveland. The program committee had planned informal meetings of the discussion type for this first fall convention. At the opening session with the topic, "Refresher in Food Preparation", the discussion was led by Dr. Irene Sanborn Hall of Western Reserve University. At the luncheon meeting Dr. Martha Koehne spoke briefly on the work being done by the nutrition staff of the Ohio State Department of Health. At the afternoon session Marie Hines, director of dietetics, University Hospitals, Cleveland, led the discussion on "Feeding the Personnel". Dr. Helen Hunscher of Western Reserve University spoke on "What's New in Nutrition".

At an informal dinner meeting, Dr. Roscoe Leas, clinical instructor in medicine, Western Reserve University, was the guest speaker and his topic, "The Relation of Diet to Various Forms of Kidney Diseases".

The Wednesday morning session was devoted to administrative problems. Mr. Stacey Keats, Southern Equipment Company, St. Louis, spoke on "Purchase and Maintenance of Equipment". "Purchasing of Food Products" was discussed by Mr. Russell Swiler, Northern Ohio Food Terminal, and Mr. L. M. Taylor of Cleveland Hospital Council. The afternoon was left open for visits to various hospitals and clinics. The first issue of the association's bulletin *News O'da* was presented to the members.

New members of the dietary staff of the City Hospital, Akron, are Judith Schaeffer, a graduate of Washington State College, and Jean Galloway, a graduate of Ohio Wesleyan.

Leona George, now Mrs. Calvin D. Firestone, resigned her position as dietitian and housekeeper at Molly Stark Sanatorium, Canton, in June. Jessie Fisher, dietitian for the past four years at the Memorial Hospital, Fremont, has replaced Mrs. Firestone.

Kathryn Weitzel, therapeutic dietitian at Christ Hospital, Cincinnati, has resigned her position to devote two years to study at Western Reserve University in the School of Applied Social Sciences. She is being replaced by Dorotha Symans of Sunny Acres Sanatorium, Cleveland.

Margaret Carr, Etheline Kirk and Florence Demerest are new members of the dietary staff at Miami Valley Hospital, Dayton.

Members of last year's student intern group who are now members of the dietary department at University Hospitals, Cleveland, are: Frances Gillespie, Frieda Harvey, Edith Hayward and Mary Schaefer.

Harriet Peeples is the new assistant at White Cross Hospital, Columbus.

Oklahoma Dietetic Association. The annual state meeting will be held April 5-6 with Mary I. Barber, president-elect, A.D.A., as guest speaker. Freda S. Johnson is general chairman of this meeting. An innovation this year will be a meeting open to the public on the first night of the session with a program consisting of 15-minute talks on various phases of food work by several dietitians. Section chairmen for the year are: Community Education, Maxine Turner; Professional Education, Hazel Larrick; Diet Therapy, Esther Dinwiddie; and Administration, Mary Wilkinson.

Dietitians now on the staff of the Oklahoma Agricultural and Mechanical College, Stillwater,

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are: Murray Dining Hall—Rachael Johnston, Vivian Lippert, and Martha Peyton; College Cafeteria—Vera Parman, Wilma Frost, Novelle Tucker and Marguerite Whelsel; Cordel Dining Hall—Betty Sterns, Mrs. Elsie Hiet Hoover and Margaret Hall.

Helen Ames, a 1938 graduate of Simmons College, is now assistant at the Station Hospital, Fort Sill.

The Oklahoma *Dietitian* for December reported that a hot lunch program for state schools is being inaugurated with Muriel Tice Nelson as general state superintendent of the project.

Oklahoma City Dietetic Association met jointly with the Oklahoma State Hospital Association, at the Skirvin Hotel, Oklahoma City, November 16–17. Mrs. Margaret Durrett spoke before the hospital group on "Dietary Administration in the Small Hospital." The program for the dietetic association was as follows: "Food Psychology and the Dietitian", Vera Bailey; "Diabetes and Infections", Dr. Owen Royce; "The Nutritionist in the Public Health Program", Maxine Turner. A general discussion followed. Officers for the association are: president, Mary Wilkinson, University Hospital; vice-president, Maxine Turner, State Health Department; secretary, Mary Moran, St. Anthony Hospital.

Pittsburgh Dietetic Association. Gladys Murray, chief dietitian, Sewickley Valley Hospital, and chairman of the program committee for the local association, announced the program for the remainder of the year at a luncheon at the Sewickley Valley Hospital, November 9.

On December 5, Dr. C. J. King, Department of Chemistry, University of Pittsburgh, spoke on "Recent Research on Vitamins" at Mt. Mercy College.

On December 13, a Christmas party was held at the Elizabeth Steel Magee Hospital, with Miss Turnball, superintendent, and Jeanette Morris, dietitian, as hostesses.

On January 9, Mr. M. H. Eichenlaub, superintendent of West Penn Hospital, spoke on "Hospital Relationships" at a meeting held at Children's Hospital.

In February, Dr. M. D. Coulter, industrial fellow, Mellon Institute, will discuss "Tenderization of Beef".

South Texas Dietetic Association met September 29 with Inez Crawford and Frances Low as hostesses. Officers for 1939–1940 were elected as follows: president, Frances Low; vice-president, Corinne Baucom; secretary-treasurer, Lou Elva Eller; and member-at-large, Helen Seago. A social meeting was held at Galveston County Park on October 25, with Mamie Ruth Harris and Gladys Lyons as hostesses. A barbecue picnic supper was served and Hallowe'en decorations were used.

At the November 24 meeting, held at the Nurses' Residence, John Sealy Hospital, the hostesses were Clara Mather, Helen Seago, Norma Gunderson and Evelyn Braden. Mrs. Ray H. Wall reviewed the book, "Reaching for the Stars", by Nora Waln. Dr. D. Curb of the University of Texas Medical School, talked on "Recent Advances in Research and Metabolism".

The annual Christmas party was given by Mary Smith at her apartment on December 21.

Gertrude Sampson has accepted a position in St. Louis, Missouri.

News from our Advertisers and Exhibitors. The Consumer Service Department, *General Foods Corporation*, 250 Park Ave., New York, is distributing an excellent and detailed food chart which lists the food values of an average serving of certain food materials by measure and weight, and the value of these servings for protein, minerals, fiber, vitamins and energy factors. On the reverse appears a condensed yet detailed summary of the normal nutritive requirements, and a plan for a day's choice of foods under four classifications.

The action of thiamin chloride (vitamin B_1) as a growth-promoting factor in plant life has been apparent to various investigators for the past two or three years. Members of the scientific staff of *Hoffmann-LaRoche*, probably the world's foremost producers of synthetic vitamins B_1 and C, months ago conducted experiments with both vitamins on plants, ascertaining that vitamin C also had a certain influence. Since physicians and nutritionists are demonstrating how extremely important is vitamin B_1 to human growth, nerve stability and proper functioning of carbohydrate metabolism, naturally the recent reports on thiamin chloride in plant life have won deserved attention and popular appeal. Thiamin chloride is needed by plants in small amounts. It plays a significant rôle in carbohydrate metabolism and other metabolic processes. Apparently thiamin is a precursor

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Sound nutrition seems to be one major factor involved in the betterment of the dental public health. Thus the dietitian has a real interest in this problem.

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of a part of an enzyme system involved in respiration and has a multiple function today as a coenzyme. Plants manufacture thiamin chloride. The point of manufacture has been shown to be in the leafy green part. Utilization of the vitamin is mainly through the roots, to which it is transferred in many species. In others, however, the thiamin must come to the root from outside sources, the soil. Further details with regard to the dramatic response of plants to vitamin B_1 can be obtained on application to the Hoffmann-LaRoche Company.

The *American Can Company*, New York, has available upon application a booklet descriptive of the practical aspects of canned foods, including the procedure in canning the various types of food, their dietetic value and uses. This booklet also dispels some of the common fallacies concerning the use of canned foods. The title of the booklet is "Canned Food Facts" and it is handsomely illustrated.

All dietitians interested in food production may be reminded that Mary I. Barber, director of the Department of Home Economics, *Kellogg Company*, Battle Creek, Michigan, has prepared excellent recipes arranged in amounts for small and large groups. These are printed on cards suitable for filing and are available upon application.

Mary Pearl, home economist for the *Maltex Co. Inc.*, Burlington, Vt., also has a full set of recipes for serving 100 people, available upon application.

The *California Fruit Growers Exchange*, Los Angeles, through their Department of Nutritional Research, announces that a booklet is now in preparation which describes the illuminated chart on vitamin requirements which drew the attention of so many dietitians to the Sunkist booth at the Los Angeles meeting of the American Dietetic Association. This and numerous pieces of literature descriptive of the uses of an adequate vitamin C intake in the diet therapy of pre- and post-operative surgical cases, the tuberculous and febrile patient and in arthritis and rheumatism, and a sample diet that has been in successful use in the treatment of pre- and post-operative cases, are available upon request. Another helpful booklet distributed by this firm concerns the feeding and care of the child. This includes helpful charts to determine the nutritional and physical status of the body. The booklet and another on the general nutritional use of fruits, should be helpful for teaching purposes.

Have You Heard?

Effective candlesticks for modern tables can be made by the carpenter out of scraps of lumber. A good size is 2½ by 3 by 1½ inches high. The top edges should be rounded off and a hole cut for the candle. Aluminum or gold or colored paint can be used, but it is suggested that aluminum will probably fit in with a larger number of decorative schemes than the other colors.

Small flower holders for individual tables can be improvised by putting laboratory test tubes instead of candles into these bases.

➤➤◅◅

In the Northwest, butter is bought in wooden boxes holding 64 pounds, and called "cubes". This is cheaper than buying print butter and much more convenient than buying it in tubs. If a "wired cube" is ordered, the butter is cut into pound prints, but the prints are not separated, and the size of the box is unchanged. This butter is ready for cutting as print butter would be.

The western pound print of butter, however, is a different shape from the eastern print, and does not cut as well. An ideal pack would seem to be butter packed in the western fashion, in a rectangular wooden box, but cut into eastern pound prints. The box would not be a cube, as it now is.

➤➤◅◅

A pound of butter, western style, measures 1½ inches x 3 inches x 6½ inches. The wooden box measures 13 inches in each dimension.

When a hospital operates its own laundry, it is much more profitable to use the waste fats from the butcher shop and kitchen than to sell these. The equipment needed in the laundry for soap making consists simply of a 100-gallon gasoline drum with a steam coil in the bottom and a faucet for drawing off the liquid soap. The hospital engineer can easily construct this for fifteen dollars. The most convenient location for this equipment is on an elevated platform above and behind the laundry soap tank, so that the liquid soap can be drawn directly into the tank.

A tasty low-cost breakfast with a wide range of nutrients

A breakfast for Winter days, satisfying to the majority of tastes and abundant in important nutrients is the combination of National Biscuit Shredded Wheat with milk, warmed if desired, and sliced bananas.

Here, in one dish, we have, combined, the food essentials of pure whole wheat, milk and bananas. National Biscuit Shredded Wheat is pure, natural, whole wheat with nothing added.

We present the findings of a recent study, showing the nutritional content of two biscuits plus a cupful of milk. The following are *naturally* present.

CARBOHYDRATES. Our product is 77% carbohydrates. Milk has about 5%.

PROTEIN. Our product is 10% protein. Milk has over 3%.

IRON. Our product is an excellent source, with .0034%. Milk has .0002%.

CALCIUM. Our product has .04%. Milk has .12%.

PHOSPHORUS. Our product has an excellent content, .42%. Milk has .09%.

VITAMIN B_1. Approximately 120 Sherman-Chase units in two biscuits. One cupful or more of milk adds approximately 77 Sherman-Chase units.

VITAMINS A and G. Our product gives these vitamins in lesser quantities. Milk is rich in both of them.

ENERGY. In two biscuits and one cupful of milk are approximately 370 calories.

With the addition of a sliced banana, of course, Vitamins A, B_1, C and G, and extra iron and carbohydrates are added.

The low cost of this breakfast, appetizing to the great majority of normal adults and children, makes it available for most families. Hearty but not heavy, its hunger-staying qualities and its needed minerals and vitamins make it almost universally acceptable as a well-rounded breakfast.

The refreshing flavor of National Biscuit Shredded Wheat can be used to encourage increased intake of milk, which, surveys show, is far below the nutritionally desirable level in many families.

Through more than forty years in millions of homes, billions of breakfasts of National Biscuit Shredded Wheat have been enjoyed.

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The soap making will naturally be the duty of the laundryman, but the dietitian may be able to suggest to him this use for one of her by-products.

Comparison of costs

200 lb. commercial soap chips @ .065		$13.00
Made soap		
200 lb. fat (sale value .02 lb.)	$4.00	
33 lb. laundry caustic @ .04	1.32	
33 lb. rock salt @ .01	.33	
		5.65
Saving on one batch of soap		$7.35

Process for making liquid soap for laundry use:

Ingredients (by weight):

6 parts fat
1 " laundry caustic
1 " rock salt
1 gal. water to each 3 lb. caustic

Put the fat into the cooker. (A 100 gallon drum holds 200 lb. fat). Dissolve the caustic in the water and add to the fat. Turn on the steam and bring the mixture to a boil. Turn down the steam and watch carefully, as the soap has a tendency to boil over for the first hour or two. Simmer 16 to 18 hours, or longer. Then turn off the steam, add the rock salt, and stir vigorously with a paddle until the soap curdles. Let stand for a day or two, by which time the soap will have solidified at the top of the drum, and the salt, the remaining caustic, and the impurities, will have collected at the bottom. Break a hole in the soap with a spade to let air in, and run these residues out through the faucet into the sewer. Pour two buckets of water through the hole made in the soap, and run these off to wash out the bottom of the drum.

Reheat the soap to bring it to a liquid form, when it is ready to be run into the soap tank for use.

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For those few persons who are highly sensitive to many foods, dietitians must reach out into foreign countries to find substitutes: foods to which the man should theoretically not be sensitized because he never ate them before. Unfortunately, highly sensitive persons will react badly to some foods that they probably never ate before, but some harmless foods are likely to be found during the search. Particularly useful are some of the foods that constitute the "staff of life" for peoples in other countries. Probably the best is rice; it has no distinctive taste, and most persons can eat it daily without tiring too much of it. Other good starchy foods are barley, oats, rye, Lima beans, sago, and the several types of tapioca and arrowroot.

A new science of world-wide dietetics remains to be opened up, and the day is coming when some grocery stores will carry a special line of unusual foods for the highly allergic person. Every minor constituent of these foods will be stated on the label, and the product will be guaranteed by the manufacturer to be exactly as stated. At present the food-sensitive person who lives in a large city can often enlarge his diet by going down into the foreign quarter and rummaging through the stores which supply immigrants with the foods eaten in their respective countries. In this way one of my badly starved, highly allergic patients obtained dried and canned lichi nuts and chestnut flour from China, big fava beans and garbanzos from Spain, cassava flour from Africa or Brazil, and soy beans from Manchuria, all of which have been life-savers to her.—Alvarez, W. C.: In the foreword to You Can't Eat That! New York: Harcourt, Brace and Company, 1939.

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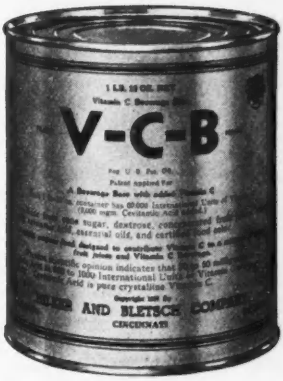

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WHO'S WHO IN THIS ISSUE

Mary I. Barber was noted in this JOURNAL for April 1939. Since then Miss Barber has been elected president-elect of the American Dietetic Association. The subject discussed by Miss Barber in this issue represents a field of work in which she has pioneered.

Mr. A. C. Jensen has been superintendent of the Fairmont Hospital of Alameda County, San Leandro, California, since January 1920. He is a fellow of the American College of Hospital Administrators, an active member of the American Hospital Association, past president of the Association of Western Hospitals and member of the Association of California Hospitals.

Warren T. Vaughan, M.D. (University of Michigan), noted authority on allergy, was formerly an assistant in preventive medicine and hygiene at Harvard Medical School. At present he is director of the Vaughan-Graham Clinic, Richmond, Virginia, editor-in-chief of the *Journal of Laboratory and Clinical Medicine* and president of the American Society for the Study of Allergy. During the World War Dr. Vaughan was lieutenant-colonel in the Medical Corps, U. S. Army. Dr. Vaughan has contributed extensively to current medical literature and is the author of *The Practice of Allergy*.

G. Howard Satterfield, Arthur D. Holmes and **Francis Tripp** were noted in this JOURNAL for May 1939. **W. S. McKimmon,** B.S., M.S., North Carolina State College of Agriculture and Engineering, has been assistant sanitary engineer, North Carolina State Board of Health, since 1933.

Grace V. Merrill, supervisor, Dining Service, Union Pacific Railroad Company, is a graduate of Battle Creek College and Bradley Polytechnic Institute. Mrs. Merrill began her work in the home economics field as a teacher. She has had admirable training for her present job—as a hospital dietitian, a home demonstration worker in Virginia, home economist for a utility company, and manager of the culinary department for several hotels. She has held her present position since August 1935.

Marie Mayer Alexander, B.A., Wellesley College, and M.S., Columbia University, is a graduate of the Boston Dispensary Food Clinic course. She has worked in the Food Clinics of New York Hospital, Johns Hopkins Hospital and the Boston Dispensary, and is now chief of the Food Clinic, Beth Israel Hospital, Boston. Mrs. Alexander spent two years traveling in Europe, as a postgraduate student in the University of Frankfurt a/Main in 1932–33, and on a leave of absence from her present position in 1937–38.

Christine Ryman Pensinger is supervisor of foods and textiles for the Department of Public Welfare, State of Illinois. She received her B. S. degree from James Milliken University, and later did graduate work at Columbia and the University of Illinois. She was head of the Home Economics Department of the Decatur Junior High School for four years. After her marriage in 1928 Mrs. Pensinger did part time teaching in the Home Economics Department of James Milliken University, and in 1932 she had charge of the Food Department there. In 1933 she was appointed supervisor of foods and textiles for the State of Illinois, which position she still holds. She is a member of the American Dietetic Association, the Illinois Dietetic Association, and Delta Delta Delta.

Marta Berg and **Marjorie Doyle** based their article appearing in this issue on a seminar attended while student dietitians at the Massachusetts General Hospital in January 1939. Miss Berg is now dietitian for a private family in Wellesley Hills, Massachusetts, and Miss Doyle is dietitian at the P. K. Yonge Training School, Gainesville, Florida.

Viola T. Glenn prepared the article appearing in this issue as a part of a study undertaken for the Community Education Section of the A. D. A. Miss Glenn at present is engaged in teaching cookery and as a "ghost writer" of papers on food.